Egbert Close

MODERN BUSINESS

THE PRINCIPLES AND PRACTICE OF COMMERCE, ACCOUNTS AND FINANCE

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INVESTMENT AND SPECULATION

A DESCRIPTION OF THE MODERN MONEY MARKET AND ANALYSIS OF THE FACTORS DETERMINING THE VALUE OF SECURITIES

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EDITOR'S INTRODUCTION

It is no part of the purpose of this volume to teach the reader how to speculate. It is hoped, on the contrary, that the book will discourage speculation by the emphasis which it places on the importance of patience, intelligence and foresight in the art of investing. In the minds of many people speculation is a very sinister word, and a speculator a man morally no better than a gambler. It is the purpose of this volume to make clear the distinction between speculation and investment, to explain and illustrate the conditions which determine a safe investment, and to describe and illustrate the hazards inherent in all forms of speculation.

The investor seeks to have his capital employed in the actual production of wealth; he is especially concerned in the security of the principal and in the certainty of income in the form of interest on bonds and dividends on stocks. The speculator, on the other hand, is primarily concerned in the values or prices of things. He is a trader, hoping to buy cheap and sell dear, and in the process he does not desire either to produce or handle the goods. Economists are generally agreed that speculation, whether in commodities or in stocks, has a beneficial effect upon the production of wealth. It tends as a rule to prevent sudden and great fluctuations in the prices of goods and securities. It causes to be recorded in the world's great markets the effect upon prices of the smallest changes in industrial conditions. Does a late frost injure the corn crop? The next day the

speculative markets will reveal the extent of that injury in the judgment of the most intelligent and best-informed observers. Are the granaries short of wheat in March? The Chicago and Liverpool quotations, which are made by professional speculators, give the small farmer the information he wants as to future demand and supply, helping him to decide how much acreage he can safely plant. Speculation gives all producers a composite, expert estimate as to the present and future values of goods. As such, therefore, it encourages production, for it tends to save the producer from the mistaken judgments born of his own narrow horizon.

Serious evils, however, are connected with speculation. Its excesses, when inspired by reckless men of great wealth, often are the source of national damage. Thousands of men, ignorant of the pitfalls of speculation and unaware of the gigantic odds against them, are annually ruined. Fascinated by the stories of great fortunes made by speculators, they blindly "plunge" in markets where only the wisest, shrewdest and best-informed of the professionals stand a chance of winning a profit. It is not the purpose of this volume, however, either to condemn or to uphold speculation. In this book speculation is recognized solely because of its importance in determining the values and prices of goods and commodities. Every producer, whether farmer, planter, lumberer or manufacturer, if he would make his business a science and reduce its chances of loss to a minimum, must understand the motives of the speculator and the methods, operations and vernacular of the speculative markets. He must not ignorantly conclude that every fall of prices is due to the evil machinations of the bears, nor that a rise in the price of his raw materials is the outcome of a "corner" unwarranted by

natural conditions, but should be so familiar with market conditions and the devious ways and tricks of the speculator that his judgment cannot easily be warped or prejudiced.

In one respect both investors and speculators have a common interest—both want to know whether the general trend of prices is upward or downward. To the speculator this knowledge is perhaps less important than to the investor, for the speculator is usually seeking to make a profit out of borrowed capital and is mainly interested in the conditions that will influence prices during the next week or month. The investor, however, puts his own capital into enterprises and means to leave it undisturbed for many months or years. He is always cheered, nevertheless, when he discovers that the market value of his principal is steadily increasing. If a man invests his savings in a railroad stock at par and in the course of two or three years sees its price climb toward 150, he begins to flatter himself that he is a shrewd investor. His friends admire his good judgment and he is inclined to practice economy in order that he may save and invest more, and so the world's productive wealth is increased.

It seems worth while, therefore, at the outset to call the reader's attention to the important fact that the industrial, and therefore the financial or investment world moves in great cycles of alternate prosperity and depression. During the period of prosperity the prices of corporate stocks tend to rise higher and higher, so that if an investor buys at the beginning of such a period, the chances are that the market value of his principal will increase as well as the rate of return upon his invested capital. On the other hand, if he buys near the end of such a period, he is doomed to disappointment.

For these periods of prosperity, owing to the delicate nature of our credit system, terminate with startling suddenness by a precipitous decline in the market value of securities, by a shrinkage in the volume of industry and business, and by a curtailment of profits and dividends.

Is the business of the country in a sound condition? Is our prosperity fictitious? Are the good times to last a few years more, or must we soon expect a reaction? These are questions which must always be in the thought of every wise business man and of every prudent investor. Unhappily they are not easily answered. Yet there are certain conditions the knowledge of which may often save the investor from mistakes. Furthermore, the mere knowledge that a glittering present does not insure a glorious future, should develop in him a spirit of wise caution.

He should first of all endeavor to determine whether the capital supply is likely to be equal to the capital requirements. Periods of prosperity, as a rule, come to an end because the world's capital is exhausted. When a country's entrepreneurs have spent all their own money and all that they can borrow, business has evidently reached its limit. Then new enterprises half completed, large projects and great improvements come to a standstill. The markets may be demanding twice the output of factories, and the railroads may need twice as many cars to haul the goods that are promised them, but no more cars can be built and the factories cannot be enlarged, for nobody has capital to lend.

If at such a time all business men could be endowed with a perfect understanding of the situation a crisis and long period of depression might be avoided. Unfortunately, however, the average man at such a time refuses to believe that there is any necessity for extreme

caution. Laboring men of all classes are receiving high wages, and the markets for commodities seem insatiable. Each small producer is prone to believe that fortune would smile on him if he only could borrow a little more money, for he can sell his goods at high prices and there is a demand for more than he can produce. Accordingly he beseeches his banker and often he gets the use of bank credit at a rate of interest which would be ruinous in ordinary times. This is always the beginning of the end, for when bankers begin to expand their loans to a point not warranted by their cash on hand the country's business enters a zone of danger.

The ordinary investor, even though he have little knowledge of business or finance, need not therefore be entirely in the dark as to the outlook. The business world furnishes for him a sign of the times which he can understand and in which he may safely place great confidence. It is the market rate of interest. I do not mean the call loan rate in New York City. That has its significance, but it bears little relation to the country's supply of capital, and to the investor is not of much importance. The rate of interest to which importance attaches is that which is paid by the great industries for the capital which they borrow. Are the railroad companies and great industrial organizations paying a higher rate for capital than they did a year or two ago? Are their 5 per cent, bonds selling below par? Are they issuing short term notes at high rates of interest? Are merchants and small manufacturers unable to borrow except at exorbitant rates? Is money scarce in Europe as well as in the United States? Have the banks of England, France and Germany raised their rates of interest to heights that cause comment in the newspapers? If the answer to these questions

is in the affirmative, then let the investor husband his resources and be patient. Then is the time to wait, not to buy.

There is one other matter concerning which every investor should keep informed, namely, the world's production of gold. In the volume on MONEY AND BANKING of this series the effects of a large and long-continued output of gold upon the prices of commodities are described and explained. The level of prices is the index to the value of gold. If the supply of the metal increases more rapidly than the need for it—and the need for it can grow only as the world's population and the production of goods increases—then gold must get cheaper and the general level of prices higher.

In this connection the consideration of importance to the investor is the fact that corporate stocks must tend to advance in their market value in practically the same degree as the prices of commodities. It must not be supposed that stocks and goods keep step. On the contrary, stocks usually lead the advance, being often many months ahead of commodities, for the new gold from the world's mines first finds its way into the banks of the great financial centres and is by them loaned to the daring speculators who initiate every great upward or downward movement in the stock markets. But, whether there were speculation or not, the advance would take place. Stocks represent the ownership of property or goods. If conditions increase the market value of the property, then the value of the stocks must also rise, for they are, so to speak, merely the titles to the property.

The investor, in this connection should also bear in mind that corporate bonds, no matter how gilt-edged

they be, do not follow stocks in their upward movement during a period of prosperity.

Events leading up to the panic of 1907 illustrate clearly the points I have sought to make. As I said in an article in the *Political Science Quarterly* for September, 1908: "Of the economic forces at work during the last decade, that which will probably appear to historians the most important is the great increase in the gold supply with the resultant rise of prices. Beginning in 1887 there was a steady increase in the world's annual output of the yellow metal, and since 1897 the production has been at a rate which would have caused dismay had it been predicted ten years before. In 1890, according to statistics compiled by the director of the mint, the world's supply of gold available for mometary use was less than $4,000,000,000. In 1907 it exceeded $7,000,000,000. At the same time, based upon this gold, there was a gigantic expansion of banking credit. In the United States, bank deposits (including those of savings banks) increased between 1890 and 1907 from $6,000,000,000 to $19,000,000,000, and practically all of this expansion took place after 1897. According to computations made by the comptroller of the currency the item of individual deposits in national and state banks increased from $7,000,000,000 in 1900 to $13,000,000,000 in 1907. During the same period, the advance beginning in 1897 and ending in January, 1907, the average prices of commodities in gold-standard countries rose some 40 per cent. In the stock market the upward movement of prices during those ten years was still greater. According to computations made by Mr. James H. Brookmire of St. Louis, who bases his calculations on the quotations of twenty representative railroad stocks, the lowest point was touched

in December, 1896, when the average price was 41. From then until the end of the Boer War in 1902 there was an irregular advance to 130. In the fall of 1902 began a decline in stocks which continued until September, 1903, the lowest point which these stocks touched being 88. Then began a more rapid upward movement, continuing through 1904 and 1905, the highest point, 138, being reached in January, 1906. Throughout 1906 the prices of these stocks barely held their own. A rapid downward movement began in January, 1907, until in March they touched 98; then they advanced until July, when a decline began which finally carried them during the October panic down to the lowest point of 82.

"It is very difficult to escape the conclusion that all this advance of prices and expansion of credit must in the main be attributed to the great increase in the world's stock of gold. This prosperous decade had much more than its share of untoward events which were calculated to restrict enterprise and hold credit in check. There were, for instance, our own war with Spain in 1898, England's war against the Boers in 1900 and 1901, the Russo-Japanese War in 1904 and 1905, the anthracite coal strike in 1902, and the Baltimore and San Francisco conflagrations. Despite all these events and others of a similar character, which tended to waste capital and destroy the confidence of conservative men in the business outlook, the tide of prosperity rolled on almost without check until the beginning of 1907, prices advancing, the stock market booming, bank clearances swelling, the average man convinced that good times, being deeply rooted in natural conditions, would persist so long as the sun shone and the rains fell.

"This prosperity was by no means confined to the United States. It existed in Canada on the same scale as here, and in a lesser degree throughout Europe and in the countries of South America, in which large sums of European capital were invested. For example, the loans of Canadian banks rose from $225,000,000 in 1896 to $712,000,000 in 1907. The total bank clearings of the United States increased from $51,000,000,000 in 1896 to $160,000,000,000 in 1906; clearings at London rose from £7,500,000,000 to nearly £13,000,000,000; and the Paris clearings from 7,000,000,000 to nearly 18,000,000,000 francs. This growth in bank clearings is a reflex, of course, of the great increase in the production and exchange of goods, the statistics of which need not be presented here.

"During all this marvelous prosperity, as in all previous similar periods, silent forces were at work that were destined to bring about a reaction. Foremost among these was the insistent demand for capital for conversion into fixed forms. There are no reliable statistics showing total capital outlays in this country or in Europe. We know, however, that in the United States the capital needs of corporations, as indicated by the listing of stocks and bonds on the New York Stock Exchange, averaged over a billion dollars a year, the total in 1901 alone having been two and a half million dollars. These figures, however, mean very little. What is much more significant is the fact that the absorption of capital during the last ten years in railroads, in the construction and enlargement of industrial plants, in subways and tunnels, in the development of South American enterprises, combined with the positive destruction of capital in three very costly wars, caused a marked advance in the rate of interest and a correspond-

ing decline in the prices of first-class bonds. In 1897 prime commercial paper sold in New York City at from 3 to 3½ per cent. In 1904 it sold at from 4 to 5 per cent. In 1906 and 1907 the rate was often 7 per cent. and the average was fully 6 per cent. The Bank of England, except for brief intervals, has maintained rates ranging from 4 to 6 per cent. for the ten years, and finally in 1907 it advanced its rate, as the result of the panic in the United States, to 7 per cent. The rates of interest at other European financial centers were correspondingly high. The most spectacular evidence of the shortage of investment money in Great Britain was furnished by the decline of consols to 83.

"In the United States the extent to which capital was absorbed by long-time investments is shown by the statistics of banks and trust companies. According to Mr. Muhleman, the national and state banks of the United States increased their ownership of stocks and bonds from $50,000,000 in 1892 to $487,000,000 in 1907, while the amount held by trust companies increased from $142,000,000 in 1894 to $785,000,000 in 1907. Furthermore, the loans of trust companies, which are largely secured by stocks and bonds, increased in the same period from $374,000,000 to $1,602,000,000. When a bank lends upon stocks and bonds as collateral it is encouraging the investment of capital in corporate enterprises. Practically the bank's own money is being locked up in long-time investments.

"During 1905 and 1906 there came to light evidence that a considerable portion of the public was willing to take long chances in real estate, in mines and in numerous other enterprises of a speculative nature. This tendency did not amount to mania and was by no means confined to the United States. In Europe, in South

America, in Japan and in Egypt there were signs that people with money were dissatisfied with the comparatively small returns yielded by high-priced railroad and industrial stocks and were seeking to get rich quickly by participation in schemes of problematical outcome. It is doubtful if this speculative diversion of loanable funds deserves to be regarded as an important antecedent condition of the crisis, yet it was probably a contributing cause.

"Meantime the banking situation was steadily growing worse. In 1897 the cash reserves of commercial banks and trust companies in the United States amounted to about 18 per cent. of the net liabilities. Thereafter there was a steady decline until 1907, when the cash reserve had dwindled to 10 per cent. Mr. Muhleman in a new edition of his 'Monetary and Banking Systems'—a most intelligent and satisfactory manual of financial statistics—gives on page 107 a table showing a decline in total bank reserves from 17.9 per cent. in 1897 to 11.3 in 1907. In the same table he shows that the amount of money and bank deposits 'in the hands of the people increased during this period from $4,000,000,000 to over $11,000,000,000. The decline in the ratio of banking reserve was due principally to two circumstances: (1) the growth of trust-company deposits, supporting which there was a reserve of barely five per cent.; (2) the relatively smaller cash reserves kept in the country banks, many of these institutions having been tempted by high rates of interest to invest heavily in call loans and time paper in New York city. It is true that the amount of cash in the vaults of country banks increased after 1897, yet their liabilities grew in greater proportion. This decline of the country's banking reserve is regarded by some as a sufficient explana-

tion of the crisis. In my opinion, however, it can be regarded merely as evidence that the lending power of the banks was severely strained, and that any further great extensions of credit were therefore impossible. The country's low bank reserve in 1906 certainly meant that the country's business could not go on booming and expanding as it had done in the preceding years, but it did not necessarily presage disaster. The situation, however, was bad enough to make every conservative man careful as to his ventures. If in 1906 the banks of the country could have had competent leadership and could have been made to see the necessity for the careful husbanding of their resources and for the restriction of their advance upon high-priced collateral, the year 1907 would probably have passed without any great financial shock or serious loss to business interests. Unfortunately, however, there was no leader."

The rate of interest rose during the ten years after 1900 simply because the continued advance of commodity prices, due to the world's large output of gold, had given a great stimulus to all forms of business and industry. When prices in general are rising from year to year the average entrepreneur makes greater money profits than when they are tending downward. In consequence he is eager to enlarge his operations and is a bidder for more capital. Under such conditions the demand for capital increases more rapidly than the supply and the rate of interest rises. This is what happened between 1850 and 1860. Then the general level of commodity prices was lifted by the sudden increase in the gold supply from the new mines of California and Australia. The money profits of business were so large during that period that the rate of interest steadily advanced, just as it has done in the first decade of the

twentieth century. In neither decade was the rate of interest the cause of higher prices; on the contrary, it would be nearer the truth to say that the rise of prices was responsible for the higher rate of interest.

The decline in the price of gilt-edge bonds, such, for example, as the British Consols, is the inevitable expression of the fact that the rate of interest has risen. In the year 1895 municipalities in the United States could sell 3 per cent. bonds at par, for then the supply of capital in relation to the demand was such that lenders were obliged to accept 3 per cent. In the year 1910, however, the supply of loanable capital in relation to the demand was much smaller and lenders were able to get 4½ per cent. Gilt-edge bonds, therefore sold on that basis, and bonds paying less than 4½ per cent. sold below par. It seems a contradiction that the rate of interest should rise at a time when the supply of money is increasing more rapidly than the demand. This contradiction, however, is only apparent. The increase in the supply of money affects the prices of commodities, for it is an increase in the supply of the medium of exchange offered for goods. Since it does not increase the supply of the world's wealth available for use in business, it cannot lower the rate of interest. The fact that the New York money market reached a 5 per cent. basis in 1910 was responsible for the low prices of bonds, but not for the high prices of commodities.

JOSEPH FRENCH JOHNSON.

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INVESTMENT AND SPECULATION

CHAPTER I

DIFFERENCE BETWEEN SPECULATION AND INVESTMENT

1. *Close similarity of speculation and investment.*—No subjects have a more wide-spread interest or excite more keenly the imagination and interest of the ordinary person than speculation and investment. Every man is in a sense a speculator. Every prudent person sooner or later becomes an investor. We speculate when we change from one position to another, or when we choose our careers; we take chances when we enter into almost any of the ordinary common contracts. Every one fortunate enough to possess an income in excess of his material necessities, if he is at the same time prudent, endeavors to invest safely a portion of his earnings.

The dividing line between speculation and investment many authors have attempted to locate. The distinction is at best a narrow one, and the authorities do not agree upon the nature of the division which should be made. There are a large number of points in which the two subjects bear a close similarity. As a consequence it is really impossible to discuss speculation without reference to the investment view-point, and in the same way every investment when intelligently purchased must be considered from a speculative standpoint.

One of the most common distinctions made between speculation and investment is that the investor buys securities or some productive piece of property in order to secure an income, while the speculator buys not to secure a steady return upon his money but to take advantage of an increase in the price of his purchase. The illustrations used for this distinction are largely stereotyped. The man who buys a government bond is frequently taken as an illustration of an investor. He realizes that the value of government bonds is almost fixed, and that its price will fluctuate very slightly if at all, during its life. He purchases the security because he has surplus funds which he desires to put at work, thereby adding to his income. The return, or interest, which is paid upon the security, and the assurance that at the end of the period his money will be returned, are the inducements which prompt him to make the purchase. On the other hand, the man who buys the stock of a bankrupt railroad company quoted at an almost nominal figure, believes that the security will rapidly enhance in value, and that although he may receive no return upon the stock he will make a large profit because of the advance in its price.

This distinction is weak and unsatisfactory because it establishes an unreal test. For example, many railroads at the present time have a reasonably satisfactory financial history, and their earning power seems to be sufficient to meet their probable needs, yet their bonds sell at a price considerably below par. The purchaser of these securities may be prompted by a double motive—first, securing a return upon the investment, and second, profiting by the advance in the price of the security to or above par through the growth in the prosperity and financial stability of the company. To classify this in-

dividual according to the test which we have considered would be impossible. Viewed from one position he is a speculator, while looked at from another he is an investor.

2. *Distinction between speculation and investment.*—The second test, which is very generally accepted, is succinctly described by S. S. Pratt in "The Work of Wall Street." He says:

> Speculation is an investment of money in which large risk is taken in expectation of great gain. But it is not easy to draw the line where investment ends and speculation begins. In Wall Street such a line is drawn, but it is an arbitrary division. When a security is bought and paid for in full, put away in a place of safe keeping and held for the income it yields—that is called an investment. The great bulk of the dealings in bonds are for investment. When a security is bought on margin and held for sale as soon as the price advances—that is speculation. The bulk of the dealings in stocks is speculative.

There is an element of speculation in most investments. Investors who pay outright for their securities are generally ready to sell them again at a profit. They buy them for the incomes, but if the advance in price is large enough, the profit in selling may be more attractive than the profit in keeping. On the other hand, the speculator buys on a margin to sell again on a rising price, but he buys and sells on an income basis the same as the investor. All wholesale business in modern trade is done on credit which is only another form of the Wall Street system of margins. The merchant who restricts his purchases to the amount his cash capital can pay for in full, must do a comparatively small business. The wholesaler's capital, in a certain sense, corresponds to the speculator's margin. The former buys on time and borrows of the bank the money to pay for

the goods as the time for payment approaches. With a capital of $100,000 he may buy, perhaps, $500,000 worth of goods.

It is only by a system of credits that the great operations of modern business can be conducted. The speculator buys stocks, like the merchant, on credit. With a capital of $10,000 the investor can buy 100 shares of stock, selling at par value of $100 per share, and pay for them in full. But with $10,000 deposited as a margin the speculator can buy 1,000 shares. Of course the risk is much greater. If the price declines the speculator may lose his entire margin or capital; but the merchant also runs a risk in buying goods in excess of the amount of his capital. Except that there is a greater mobility in the stock market than in other markets so that changes in prices are more rapid and extreme, the risk in both cases is equal.

3. *All men are speculators.*—The operations of the merchant and the speculator are therefore, in the last analysis, essentially the same. If all business, whether in stocks or in trade, were conducted strictly on the cash or investment basis, the transactions would be very limited. Credit means expansion and activity. In times of panic, when credit is withdrawn, speculation ceases and all business becomes of the investment order. Then stagnation sets in, wages fall, and widespread suffering is caused. Some one has said that speculation is "a disease of the mind"; but Henry Clews, in his testimony before a legislative committee which investigated corners in 1881 gave a serious and better definition. He said:

> Speculation is a method for adjusting differences of opinion as to future values, whether of products or of stocks. It regulates production by instantly advancing prices when there

is a scarcity, thereby stimulating production, and by depressing prices when there is an overproduction.

The speculator may be defined as a man who, making a study of business conditions and of the earning power of the companies in whose stocks he purposes to trade, buys because he believes that prices ought to advance, or sells because he believes they will fall; and does so on a margin ample to protect him against any ordinary vicissitudes of the market. He exercises the same foresight and conservatism as does the merchant who places a large order for goods.

The gambler in stocks is one who "goes it blind," who buys and sells without study of conditions or of the property in which he invests, who trusts to chance. He often risks more than he can afford to lose, perhaps wasting the savings of many months in one transaction. He might as well risk his money on a horse race or a roulette table. Wall Street is full of gamblers of this kind. "People will deal in chance," said Jay Gould to a United States Senate committee. "Your minister, doctor and barber have all the same interest in speculation."

The distinction which Mr. Pratt makes between investment and speculation is regarded by many as not entirely satisfactory. It consists of a comparison of extremes. It is necessary that this radical difference be understood before a more careful distinction can be made. Investment consists in the exchange of money for property which is believed to be of such stable value that the principal sum may be recovered either by the sale of the security or through its redemption at some definite date by the issuing company. In addition the purchaser must be assured that he will receive a satisfactory and constant return for the use of his money. Furthermore, the wise investor demands that his money

shall not only be secure and that a satisfactory income be assured, but also that there shall be a sufficiently wide market for his investment to enable him to dispose of it quickly and rapidly in case he desires to convert his holdings into cash.

Speculation, as Mr. Pratt says, is the taking of long chances in expectation of great gain. A shrewd man speculates with his eyes open to the risks which he is taking. He calculates them as accurately as possible and then decides whether the chances of profit are sufficient to compensate him for his chances of loss.

The criticism most commonly made is that one man may regard a proposition as an investment which another declares to be a speculation. The world is full of illustrations of this. Day laborers, men of meager salaries, in fact almost every class whose earning are limited and who must husband every resource, will plunge into glittering wild-cat schemes which are declared by their promoters to be safe investments, but which in reality are desperate speculative snares. A few of these may turn out partial or even satisfactory successes. The great majority of them never have a chance of becoming solid and substantial propositions. The deluded buyer may for a time regard the disposition of his savings as an investment. He later finds, to his sorrow, that in reality it was a foolhardy speculation.

This criticism loses much of its force if the definition is applied, not from the stand-point of an inexperienced person, but from the point of view of the collective judgment of acute and experienced investors and observers of conditions. The consensus of opinion of those who have made a study of the particular security, and a business of judging of properties of this class, gives to each offering its proper category. It is not so

much the judgment of the individual as the collective judgment of the community which must be considered. Thus a security may at the time it is first floated be regarded as a rank speculation, but wise management and the development of latent and too generally discounted resources may so improve its earning power and completely demonstrate the value of its property as to cause a reversal of opinion and the placing of its securities in the class of high grade investments.

4. *Practical importance of understanding difference.* —The distinction between speculation and investment is, however, an academic question to which we need give but little attention. The important point for us to remember is that the speculator and investor look at the securities or properties in which they are trading from different stand-points. The speculator is an opportunist. He places his faith to a large degree upon a quick turn based many times upon conditions which have little or nothing to do with the considerations entering into the decision of the investor. The experienced speculator, it must be understood, generally makes a careful study of the business conditions and the earning power of the companies in whose stocks he proposes to trade. He discounts both of these factors to the fullest degree in forming his judgment. He, however, feels but a temporary and transient interest in the property he buys, for he hopes to sell it again in a short time. The investor regards himself in a certain sense as becoming a partner in the business enterprise. As such he makes a careful and intimate study of its probable future, its assets and its earning power. The speculator regards himself as one who has no intention of making a permanent connection, but rather secures an option upon certain property in the belief that it may turn out to be

valuable. This is particularly true where the speculator trades upon margin or buys a privilege. The strongest proof of the correctness of this diagncsis is found in the fact that there is but little speculation in bonds. If there is no possibility of a large advance in their price they are sought only by investors. It is the stocks of corporations which furnish a medium for most of our speculative transactions, for it is here that the largest possibilities of fluctuation are to be found. The speculator regards the shares of stock which he buys largely as pawns in the game which he is playing.

CHAPTER II

THE MARKET FOR SECURITIES

5. *Where securities are dealt in.*—The study of Investment and Speculation concerns itself with the securities issued by governments, states, municipalities and private corporations. Naturally the first question which arises has to do with the markets which exist for these securities. If we do not know where bonds and stocks are bought and sold and who sells and buys them we cannot progress far with the study of their characteristics or values. Anyone may buy and sell securities, but where the transactions reach a large scale markets spring up, and where the markets are taken in charge by regular organizations and controlled by rules such markets become stock exchanges. It does not follow, however, that all important transactions are made upon the stock exchanges, although the importance of these organizations is constantly becoming greater. The largest American stock exchange is in New York City and here for the past decade there have been average annual sales of shares of 196,500,000, at prices involving an average annual turnover of nearly $15,500,000,000; bond transactions in the same period averaged about $800,000,000 a year.

6. *Stock Exchange the largest single market.*—From these figures it will be seen that a much larger proportion of the stock than of the bond business is concentrated on the exchanges. This shows how large a part speculation plays in Stock Exchange operations, specu-

lation being largely confined to stocks and but little existent in bond dealings. It is generally estimated that not more than one-third the total bond sales in New York City take place on the Stock Exchange. In the case of Government bonds more than nine-tenths of the sales are made directly by two or three dealers and prices reported from the "board," as the Exchange is often termed, are little more than nominal. Fully nine-tenths of the transactions in municipal bonds take place in other quarters than on the Stock Exchange. This business, also, is largely in the hands of dealers and New York City bonds are the only ones which find a ready market on the exchange.

The New York Stock Exchange is, however, by far the largest single market in the country, both for bonds and stocks. There is seldom a year in which at least half a billion of new bonds are not listed on this exchange and up to June 24, 1909, there had been listed since January 1 of the same year $1,451,897,670 new securities, of which $670,000,000 were bonds. There is also a smaller exchange in New York, the Consolidated, and large dealings in both stocks and bonds are also carried on in Broad Street under the name of the Curb. This market is but little organized, although the total of its transactions are large. There are important stock exchanges in other cities, particularly in Boston, Chicago and Philadelphia, and finally there is a great amount of buying and selling of securities, especially of bonds, among the banking firms, Stock Exchange firms with bond departments, and banks and trust companies with bond departments. Although, as already stated, the greater portion of all dealings in bonds and especially in United States governments and municipals, is carried on privately, or "over the counter," the ten-

dency toward employing the Stock Exchange as the major market is steadily increasing. Many issues, formerly traded in only among dealers, now find a market on the board and the value of a Stock Exchange membership is more appreciated by the bond houses than formerly. Indeed every small bond house is ambitious to own a Stock Exchange seat. It is often advantageous for purposes of record to have important transactions carried through on the board and the information which the Exchange requires from all corporations seeking to have securities listed is of assistance in arousing the interest of investors in these securities.

7. *Markets created by savings.*—If for a moment we drop the subject of speculation and consider only the more important matter of investment we will find a significant relation between investment and geography. Primarily, dealing in securities is greatest where the investment demand is greatest and the extent to which funds seek investment is determined to no small extent by locality. The reason for this is the fact that generally in the older communities a much larger proportion of all wealth has been saved and is available for investment. In new communities every resource is employed in developing the land and putting up dwellings, but in New England, New York and a few other eastern states there are hundreds of thousands of persons, many of them women, who have more money than is immediately needed for carrying on the pressing daily business of the locality in which they live and this money finds its way chiefly into the securities of public and private corporations.

As the West grows richer there is an increasing surplus for investment, but it is still true that the central

investment markets are in the East and especially in New England, New York City and Philadelphia. Here the bulk of the trading in bonds is carried on and here too are the leading stock exchanges.

8. *Functions of the savings banks.*—The best proof of the foregoing statements may be found in the relation of the mutual savings banks of New England and New York to the investment situation. In these states there are savings banks, entirely mutual in character and managed solely in the interest of the depositors, there being no stock or dividends, which receive very small sums from millions of depositors and which in turn invest the money largely in high grade bonds. These banks have about $2,000,000,000 invested in bonds and their purchases prove a most far-reaching factor in the investment markets. The larger life insurance companies are nearly all situate in New England, New York and Eastern Pennsylvania and these companies are as large buyers of bonds as the savings banks. The fire insurance companies also are purchasers to be reckoned with in both the stock and bond markets and the majority of such concerns are in New England and New York. Finally there are many trust estates, universities, colleges and philanthropic institutions in the great eastern centres of population which are constantly seeking investments.

9. *Chicago a growing investment centre.*—In New York there are 391 firms dealing in securities. In Boston we find 129 and in Philadelphia 122. Chicago is a poor fourth with 101 and then come Baltimore, Cincinnati, Pittsburgh and St. Louis with 44, 42, 39 and 35 respectively. These figures plainly show how the East still holds the supremacy in investment affairs but similar figures ten years from now will probably

reveal a wholly different situation. The Chicago Stock Exchange is being enlarged and many corporations which formerly maintained transfer offices only in New York and permitted their securities to be traded in on the New York Exchange alone are opening offices in Chicago and adding their stocks and bonds to the Chicago Exchange. According to competent authority the bonds houses of Chicago distributed $250,000,000 of bonds in 1909, but a decade later they will be expected to distribute twice that amount annually.

10. *Stock exchanges as speculative markets.*—Bonds and stocks which are bought for permanent investment may be, and in the case of certain classes of securities usually are, traded in outside the regular stock exchanges but when we come to the study of speculative operations in securities we find that such operations are almost always confined to the stock exchanges. Even where no transaction takes place and the customer of what by courtesy alone is termed a "broker" places a bet on the change in prices as indicated by actual transactions made by other persons the bucket shop where he gambles often pretends to have made a sale or purchase on some more or less mythical stock exchange. Whatever the evils of speculation may be it should be thoroughly understood at the start that the purchase and sale of securities on any of the larger exchanges are real, actual transactions. By means of collusion and various private arrangements the capital invested in speculative transactions may be small but the delivery of the securities has to be made and paid for just the same as if a savings bank were buying for permanent investment.

11. *Element of speculation present in all business.*—Nor should it be supposed that only on the Stock Ex-

change does speculation occur. It is found in every walk of life. The ordinary merchant who buys a large stock of goods in anticipation of a rise in price due to advance in the tariff schedule is a speculator. The man who buys a store property upon an important retail street in a large city, feeling certain that with the growth in the community its value will be increased, is a speculator. The shrewd observer who believes that because of a small crop the price of a product will rapidly advance in the months preceding its harvest, and who buys large quantities in anticipation of such a rise, is a speculator.

The bulk of speculation, however, is carried on in connection with either the stock exchange or the produce exchange for the reason that they afford a quick and instantaneous market in which purchases can be resold. The merchant who buys his stock of goods in anticipation of a rise in price through a tariff change, for example, can only realize his profit after he has slowly disposed of his stock in the ordinary course of trade. This may take many months. The speculator in the stock or grain market can take his profit in five minutes with a single transaction upon the exchange.

CHAPTER III

ORGANIZATION AND OPERATION OF THE STOCK EXCHANGE

12. *The New York Stock Exchange.*—The keystone of the structure of speculation is the stock exchange. The New York Stock Exchange as being by far the most important merits a detailed study. To begin with it is an unincorporated organization.

Its object as stated in its constitution, "shall be to furnish exchange rooms and other facilities for the convenient transaction of their business by its members; and to promote and inculcate just and equitable principles of trade and business." These three objects are faithfully carried out by the exchange.

The home of the exchange, situated in the heart of the financial quarter of New York usually known as "the Wall Street district," is unexcelled in point of magnificence and convenience.

The managers of the New York Stock Exchange have been successful in their efforts to maintain prescribed standards of integrity among its members. Membership in the exchange is a very valuable privilege, which in boom times is eagerly sought after. The membership having reached the limit, entrance can be secured now only through the purchase of the seat of a deceased or insolvent member or of some one about to retire from business. The word "seat" is a misnomer. In early days the brokers had seats in a room arranged like the ordinary legislative chamber, but at the present time the

business of the exchange is handled upon a great floor, the brokers standing or moving around to transact their business. The sale of a "seat" merely gives the member the right of entrance to the floor, which is open only to members or their representatives and to the employés of the exchange. The qualifications for membership in the exchange are simple. The applicant must be a citizen of the United States and at least 21 years of age. All applications for membership and all applications for reinstatement of suspended members are referred to the Committee on Admissions.

13. *Government of the exchange.*—The government of the stock exchange is vested in a Governing Committee composed of the president, treasurer and forty members. The members of the Governing Committee and the secretary constitute the officers of the exchange. One-fourth of the membership is elected each year. The Governing Committee is all powerful in the exchange. Its powers correspond in a general way to those of a board of directors of a corporation. Among its duties, for instance, are the following: (1) It determines the manner and form by which its proceedings shall be conducted; (2) it has the power to appoint all committees and regulate their jurisdiction; (3) it has supervisory jurisdiction over all matters referred to sub-committees; (4) it has the power to try all members for alleged offenses and punish them if found guilty; (5) it has control of the finances of the exchange and fixes the amount of fees; (6) it is vested with all powers necessary for the guidance of the exchange and of its members.

The officers of the exchange are president, secretary and chairman. The president directs the enforcement of rules and regulations and may preside over the

exchange whenever he may care to do so. He is also the presiding officer of the Governing Committee. The chairman of the exchange is appointed by the Governing Committee. It is his duty to preside over the exchange during business hours, to maintain order, enforce the rules and impose fines and penalties. He is not permitted to buy or sell personally upon the floor of the exchange.

14. *Exchange committees.*—In addition to the Governing Committee there is a large number of so-called standing committees, to each of which is assigned special duties. The number of these committees vary, being larger in the New York Exchange than in other exchanges. The most important of these standing committees in the case of the New York Stock Exchange are:

1. Committee of Arrangements, composed of seven members, which makes and enforces all rules necessary to the conducting of business on the exchange. It considers all complaints of violation of rules, controls and regulates the quotation service and all telegraph or telephone connections with the exchange. In addition this committee has charge of the employés of the exchange and of the physical condition of the property.

2. Committee on Admissions, composed of fifteen members, passes upon all applications for the transfer of seats and of suspended members for reinstatement to the usual privileges. A vote of two-thirds of the committee is necessary to elect to membership or to reinstate a suspended member.

3. Arbitration Committee, which investigates and decides all claims and differences between members of the exchange arising out of contracts subject to the rules of the exchange. If the committee is unable to decide, or

if the parties both desire, the controversy between the members may be brought into the courts in the regular manner. The decision of the committee, when rendered, is final in all cases, unless an appeal is taken by a member of the committee. All controversies involving $2,500 or over may be appealed by either party to the Governing Committee, which may finally adjudicate the case or advise the parties to secure their remedy at law or direct a re-hearing by the Arbitration Committee.

The fourth committee is the Committee on Clearing House. This committee is composed of five members and has charge of the clearing of the business of the exchange and the preparation of the financial reports arising out of the performance of this work.

In addition to this there are a number of other committees whose names indicate their duties. The most important are the Committee on Commissions, regulating and enforcing the commissions to be charged by members; Committee on Constitution, Finance Committee, Committee on Insolvency and Law Committee.

The Committee on Securities makes the rules regulating the delivery of securities from one member to another and the settlement of contracts between members.

The Committee on Stock List considers all applications for placing securities upon the list of the exchange.

This organization of the exchange at first glance seems complicated, yet in reality it is very simple when compared with the magnitude of the business involved and the complexity of questions which constantly arise. A considerable number of these committees are very inactive, meeting infrequently and having little work to consider. The exchange is a self-governing body whose operations have been eminently successful. The rigidity of the discipline maintained and the swift pun-

ishment meted out to all offenders make infractions of the rules comparatively infrequent.

15. *Method of doing business.*—The building of the exchange consists of two floors. The lower is used by employés and members for cloak rooms and other necessary purposes. The main floor of the exchange is surmounted by a high dome, through which light and air are obtained. Around the walls is a seemingly endless series of telephone booths, each of which is leased to some member of the exchange and is used by him many times each day in communicating with his office for the purpose of securing orders and reporting the success of his negotiations. The major portion of the main floor is given up to the exchange "floor." This is a great open space, scattered over which are a large number of posts. Each of these posts bears a sign upon which are printed the names of the stocks which are traded in at this point. Sometimes a single stock will be given a post, while sometimes a number of stocks will be grouped together at one post. There is, therefore, some particular spot in the room for the purchase and sale of each security. For example, there is the sugar post where the stock of the American Sugar Refining Company is traded in. There is another post at which stock may be borrowed for delivery on short contracts, and still another for the sale of call money. When a member secures an order to buy stock he goes to the proper post and cries out how much he wants and the price which he will pay, starting, of course, at or below the last quotations. All the other brokers who have that stock for sale gather around the post, each crying out the price at which he will sell the quantity desired. At first the buyer and seller are at extremes—one may offer 65 and the other may demand 67⅛. Each rap-

idly approaches the other—one offering an eighth more than his previous offer, the other dropping, if he sees fit, in the same degree. This continues until the broker offers the stock at the price which is agreeable to the buyer. The latter shouts "Taken," and both make a simple memorandum upon a little pad which they carry in their hands. All that is set down is "bought" or "sold," the number of shares, initials representing the names of the stock, the price, and name of the other party. Thus amid a ceaseless roar which is utterly unintelligible to the uninitiated—seeming like the cries around the Tower of Babel to the interested visitor in the gallery—is transacted in a simple and informal manner millions of dollars of business during each working day. The exchange, which to the outsider at all times seems turbulent, becomes an arena of fighting, frenzied men whenever there is great activity in the market and sharp variations in prices. When a broker has bought or sold in the exchange he reports the transaction as soon as convenient by telephone to his office. Within an hour from the closing of the exchange each office sends out a slip or ticket memorandum covering each transaction to the other firm involved. This comparison is intended to check up mistakes which may have occurred. As a matter of fact, it is remarkable how few differences exist. In spite of the fact that large transactions are constantly being made, that the contracts are oral and are made amid turmoil and confusion, the agreements are honorably fulfilled by the members and comparatively few controversies ever arise.

16. *Penalties for insolvency of members.*—An inexorable condition of membership in the Exchange is that no member shall be allowed to trade upon the Exchange after he has become insolvent. The business of a stock-

broker is hazardous. During good years large profits are made, but these may be wiped out by a single mistake of judgment or lack of caution in an hour of panic. The trading of members with each other is upon the faith of the ability of each to carry out his part of the contract. The failure of one house frequently drags down with it firms which would otherwise be solvent. Under such conditions rigid rules are in force in all our exchanges governing the insolvency of members. Let us again take the New York Stock Exchange as our example. The rules provide that a member who fails to comply with his contracts, or becomes insolvent, or who is associated as a partner in a firm registered upon the exchange which fails to carry out its agreements, shall immediately inform the president in writing of the insolvency of himself, or of his firm. The president immediately suspends him from membership and this suspension continues until he is able to settle with his creditors and has been formally reinstated by the Committee on Admissions.

17. *Reinstatement of members.*—The unfortunate member is given one year in which to arrange a settlement with his creditors and apply for reinstatement. If he does not succeed in doing so within this period of time, his membership is disposed of by the Committee on Admissions, the proceeds being turned over to the representative of his creditors. The committee, however, is given the option of extending the period of time if it deems such a course advisable. In order to secure reinstatement a member must submit conclusive evidence of having settled with his creditors. The Committee on Admissions then posts his name for a period of at least three days. At the end of this time a ballot is taken, and if the applicant succeeds in securing a favorable

vote of two-thirds of the entire committee he is entitled to reinstatement to full privileges. The applicant is given the right of choosing the meeting of the committee at which his application is to be passed upon. His failure, however, to secure the affirmative two-thirds vote of the committee does not destroy his hope of reinstatement, for he can present his petition at any one of the five subsequent meetings of the committee which he may select. It is necessary, however, that the second presentation of his name occur within one year from the date of his suspension. If the committee is still unwilling to accept the delinquent, he has one other alternative. He may appeal within ten days of the last rejection to the Governing Committee, which may, by an affirmative vote of not less than twenty-five of its members, reinstate the applicant. If, however, his appeal to the Governing Committee shall fail, the Committee on Admissions is then charged with the duty of disposing of his membership and turning over the proceeds of the sale to him.

The Committee on Admissions usually reinstates members when no evidence has been presented of reckless or unbusinesslike dealing. Whenever this has occurred, however, the committee usually refuses to approve of the application for reinstatement, and if the matter reaches the Governing Committee, it submits the facts substantiating these allegations to this body. The Governing Committee is empowered to declare ineligible for reinstatement any member who in its opinion is guilty of irregular practices by a resolution passed by a two-thirds vote of the total number on the committee. In the same way the Governing Committee can by a two-thirds vote expel any member whom it finds to be guilty of fraud or fraudulent acts.

18. *Exchanges try to prevent competition.*—The stock exchanges jealously guard the monopoly which they possess by providing penalties for every member who transacts business through any outside organization which permits dealings in securities traded upon in the regular exchange. As a consequence the irregular or outlaw exchanges lead a precarious existence and usually die a natural death, except where they take up a field of activity not covered by the regular exchanges. The penalty for members of the regular exchange who are connected directly, by partnership or in any other manner, with an irregular exchange is suspension for a period not exceeding one year, or expulsion, as the Governing Comittee may determine. In addition, a member making a transaction with a non-member in the quarters of the exchange is subject to suspension for a period of one year.

19. *Gratuity fund.*—An interesting feature of our American exchanges is the so-called gratuity fund which exists for the benefit of the families of deceased members. In the case of the New York Exchange every person who becomes a member must pay to the trustee of the gratuity fund the sum of $10 before he is admitted to the privileges of membership. Whenever a member of the exchange dies an assessment of $10 is levied upon every member. The income from these two sources is used to fulfill the pledge of the exchange to pay to the executors of the deceased member's estate within one year after his death the sum of $10,000, or so much thereof as may have been collected and unexpended.

20. *Fictitious transactions prohibited.*—The rules of the exchange furthermore provide that no fictitious transactions be permitted on the floor under a penalty

of suspension for a maximum period of one year. These fictitious transactions are commonly called "wash" sales. This device is intended to give fictitious values to securities. Two brokers might conspire, let us say, to advance the price of stock. One would offer it on the floor in the regular way. His confederate would bid the price up beyond what others would be willing to pay and would then buy it in. The continual succession of these high sales would attract interest to the security and give to it unnaturally high quotations.

The practice, though prohibited, exists in a modified form, which seems to be beyond the scope of the rules. An operator who desires to advance or depress the price of the stock now does so by "matched" orders, as they are called. In these transactions he uses different brokers, some of whom he instructs to buy and others to sell, naming the price limit in each case according to his desires. In most cases the broker is ignorant of the object in view and executes the transactions in good faith. Nevertheless a large operator with ample resources can by this method secure the same ends as he formerly attained with the "wash" sales. The only disadvantage is that in this process he may be forced to absorb a large amount of stock which is offered by outsiders and which is naturally purchased in good faith by the innocent broker in preference to that offered by his unknown ally. This stock must, of course be paid for in the regular way. The purchase of this stock at high prices materially reduces the profits of the operator in his stock market campaign.

21. *Recommendations of the Hughes Committee.*— The committee appointed by Governor Hughes of New York to investigate speculation made this recommenda-

tion in regard to the manipulation of prices and fictitious transactions:

There have been instances of gross and unjustifiable manipulation of securities, as in the case of American Ice stock. While we have been unable to discover any complete remedy short of abolishing the Stock Exchange itself, we are convinced that the Exchange can prevent the worst forms of this evil by exercising its influence and authority over the members to prevent them. When continued manipulation exists it is patent to experienced observers.

So far as manipulation is based upon fictitious or so-called "wash sales," it is open to the severest condemnation, and should be prevented by all possible means. These fictitious sales are forbidden by the rules of all the regular exchanges, and are not enforceable at law. They are less frequent than many persons suppose. A transaction must take place upon the floor of the Exchange to be reported, and if not reported does not serve the purpose of those who engage in it. If it takes place on the floor of the Exchange, but is purely a pretence, the brokers involved run the risk of detection and expulsion, which is to them a sentence of financial death. There is, however, another class of transactions called "matched orders," which differ materially from those already mentioned, in that they are actual and enforceable contracts. We refer to that class of transactions, engineered by some manipulator, who sends a number of orders simultaneously to different brokers, some to buy and some to sell. These brokers, without knowing that other brokers have countervailing orders from the same principal, execute their orders upon the floor of the Exchange, and the transactions become binding contracts; they cause an appearance of activity in a certain security which is unreal. Since they are legal and binding, we find a difficulty in suggesting a legislative remedy. But where the activities of two or more brokers in certain securities become so extreme as to indicate manipulation rather than genuine transactions, the officers of the Exchange would be remiss unless

they exercised their influence and authority upon such members in a way to cause them to desist from such suspicious and undesirable activity. As already stated, instances of continuous manipulation of particular securities are patent to every experienced observer, and could without difficulty be discouraged, if not prevented, by prompt action on the part of the Exchange authorities.

The state of New York recently passed a law levying a tax of $2.50 upon every 100 shares transferred upon the exchange or elsewhere. This tax, while producing considerable revenue for the use of the state, was intended also to diminish the amount of the fictitious business which was being carried on.

22. *Members' fees.*—The fees which members are allowed to charge for their services are fixed by the rules of the exchange, which are rigidly enforced. The commissions are always based upon the par or face value of the security traded in and not upon the amounts which they have brought in the transactions. Rigid provisions are made forbidding rebates and discounts. Three rates of compensation are named. The first applies to all business transacted for parties who are not members of the exchange and for firms on which the member of the exchange is only a special partner. Upon this class of business it is provided that the commission shall not be less than one-eighth of 1 per cent. The purchase of 100 shares, therefore, entitles the broker to $12.50. If the seller of the stock is also a non-member, he has been forced to pay the same price. The total compensation, therefore, which is received by exchange members for each transaction for outsiders amounts to $25. The practical effect of this is that there must be an advance of at least one-fourth of 1 per cent in the par value of the stock to enable the sale to net an amount sufficient

to pay the commissions for the seller. For he has paid the amount of $12.50 when he bought the stock and will have to pay the same amount when he sells it. Any advance over the sum of $25 on each 100 shares represents the profit of the member. From this it is usual to deduct the interest on the money invested during the time the stock is held and advanced to the customer by the broker.

The second rate is for members of the exchange who purchase securities for other members of the exchange, but who do not give the name of the member for whom they act. The commission for this business is fixed at one-thirty-second of 1 per cent, or about $3.12 for each 100 shares. When, however, the member gives up the name of a principal who is also a fellow broker of the exchange, the rate is one-fiftieth of 1 per cent or a charge of $2 for the purchase or sale of 100 shares.

23. *Two-dollar brokers.*—At first glance it would seem strange that any member should take the trouble to execute the orders of other members. There are, however, a number of brokers who do not care for a business involving a large number of accounts, negotiations with customers and the maintenance of an expensive establishment, but who would rather execute the floor business for other brokers who have a large clientele. These "two-dollar brokers," of whom there are about two hundred and fifty, must do a large volume of business in order to make any considerable profit. They rely upon the efficiency and speed in which they can execute orders for the continuance of their trade and become very proficient in carrying out commissions. Their services are especially sought after during rush times.

24. *Room traders.*—There is another large class which does not come into direct contact with the public, and in

fact, cares little or nothing about its business, except in so far as it affects the stock quotations. These are called "room traders." These brokers are sometimes called professionals. They do not buy or sell for others, but trade on their own account, making their profit out of their speculations rather than out of their services for others. "Room traders" do not try to make large profits on any transactions. They only expect a very small profit on each share and rely upon the volume of their transactions to give them their income. Being on the floor of the exchange at all times and not having to rely upon the mechanical devices to convey information concerning the movement of prices, which in rush times are several minutes behind the actual happenings upon the floor of the exchange, they are able to take advantage of every slight fluctuation, selling upon the slightest upward movement and buying again when prices begin to sag. They usually specialize on a few stocks which they study closely so as to guard against being caught in any general movement of prices. Most of them endeavor to balance up each day's business at the end, carrying over very little stock to the next day. That is to say, they endeavor to have their purchases and sales nearly equal so that in the final settlement very little cash is required.

25. *Specialists.*—The third class of members who do not come into direct contact with the public are the "specialists." This class is made up of those brokers who make a specialty of a few selected securities. In some cases brokers confine their entire operations to one security, although usually three or four are carried. To this they give continuous and expert attention. In most cases the business of these brokers comes from the execution of orders given to them by other brokers.

CHAPTER IV

RELATION OF BANKS TO THE SECURITY MARKET

26. *Two classes of security buyers.*—The buyers of securities which furnish the source of the business of the stock exchange can be divided into two classes. The first and least numerous class includes those who purchase securities, paying for them entirely with their own money. They are for the most part conservative investors who buy stocks or bonds when prices are attractive and lock them up in their strong-boxes satisfied with the income which they yield. Sometimes the inflated prices of a bull campaign may tempt these people to convert their investments into money. If this occurs, the securities again change hands through the instrumentality of the exchange. A certain proportion of this class are, of course, speculators of the conservative type. They buy the securities, paying cash, in anticipation of the profit which they can make if the advance in price occurs. They prefer this method of speculation because of its safety. They can hold the securities as long as they desire since they are paid for in full.

Other stock exchange customers are those who buy securities largely with borrowed money. This class far exceeds the first in number and in the volume of business which it creates. These buyers usually trade on margin. That is to say, they put up only a part of the money necessary to buy the stock and rely on the broker to secure the balance. In the case of a reputable security with a wide market and under normal condi-

tions it is quite common for the speculator-customer to be the nominal owner of stock in which in reality he has but a dollar invested for every nine borrowed from outside sources upon the stock as security. A satisfactory market therefore cannot exist without an enormous amount of borrowed money. The larger part of this money must be secured from the banks. There is no business in the country which depends more completely upon the banks than the brokerage business. This relationship is a most important force in causing those changes in values upon which most speculators rely for their profits. The security market accurately reflects, indeed, forecasts, every falling change in the money market.

27. *The broker and the banks.*—The broker is invariably a heavy borrower from the bank. Most of his customers are speculative; they desire to operate with as little money of their own as possible, and they realize that their profits in proportion to their capital invested would be greater were a smaller amount invested than it would be if it bought their stocks outright. A man, for instance, who would buy 100 shares of Pennsylvania at 150 would have $15,000 invested. If the stock rose to 160 he would make $1,000, or a profit of about one-fifteenth of his capital. If, however, he bought stock on a margin he could probably be able to buy 100 shares with an advance on his part of $1,500, the balance being furnished through the agency of the broker. The profit upon the transaction would remain approximately the same, but instead of making one-fifteenth of his capital his profits would now equal two-thirds of the amount of his original investment. Speculators usually prefer, even when they have large financial resources, to buy stock on margin.

The purchase of stock on margin involves the payment of a relatively small amount of money by the broker's customer, and the furnishing of the greater proportion of the price of the security by the broker. Let us suppose that the customer desires to purchase an active security having a broad market which is selling at 100. He will advance $10 for each share which he desires to buy. There is a balance, however, of $90 which must be secured in order to provide the funds necessary for the purchase of the stock. This sum the broker stands ready to furnish. It may be that $10 of the $90 will be furnished by the broker out of his own capital; the balance of $80 will probably be borrowed from the bank, with the stock purchased deposited as collateral for the loan—that is to say, the broker makes the security which he buys furnish 4-5 of the funds necessary for its purchase. He furnishes 1-10 himself, while the customer in whose interest the transaction is made supplies the other tenth. The customer pays the ruling rate of interest upon the money which is borrowed. This interest is sufficient to cancel the charge of the bank for the loan of the money and renders the broker some profit upon the cash which he himself has invested in the stock. This is a typical margin transaction. If the market for the stock is very satisfactory and the fluctuations are small and there are no disturbing conditions which are likely to cause a change in the price, it is sometimes possible for a customer to buy on an even smaller margin than 10 per cent. In the case of stocks which fluctuate widely or in an unsettled market the broker may on the other hand demand even heavier margins.

28. *Kinds of loans to brokers.*—It is easily understood now why the brokers are such heavy borrowers

from the bank. A large percentage of their transactions can be financed only with borrowed money and the banks are the institutions from which this money must ultimately be secured. There are two kinds of loans which the banks make to the brokers. The first is the "time loan" in which the bank loans the money for a definite period of time—say ten days. Under these conditions the customer is certain that the money will not be recalled before the end of the period. This class of transaction, however, is relatively uncommon. The greater percentage of the loans are demand loans and are known as "call loans." There are times when most of the loans of the New York banks are in the form of call loans made to brokers. The call loan, theoretically speaking, is a loan which may be called in by the bank at any time. In the New York market, however, certain customs have developed governing the conditions under which the bank may call loans. The first is that a call loan which is made to-day will not be called until to-morrow at the earliest. If the bank desires to call in the money on any particular date the call is usually made in the morning. If this is done the loan must be repaid by 2:15 P. M., when the broker receives back the stock which he gave as collateral for the loan.

It has also become an unwritten rule that a loan made to-day if it is to be called on the following day must be called at or before 1 o'clock P. M. If not called by that time the understanding is that the loan will run until at least the following day. Theoretically, call loans are made subject to payment on demand. In practice they are at least one day loans, but may run on for many weeks or months. There are instances of record where banks have allowed call loans on gilt edge securities to run for years.

29. *How brokers' loans are made.*—The business of making loans by the bank is carried on in two ways. The first is by direct connections with the stock brokers, and the second by the use of the middle men or money brokers who act as intermediaries between the lenders and the borrowers. Most of the loans are made by the so-called money brokers, who are to be found at a regular place in the board room where loans are made. The rate for call money varies from day to day. Sometimes it is very low, while again it soars to almost prohibitive heights. The charge which is made, however, is definitely established on the stock exchange and is quoted upon the ticker tape just as are the security quotations.

The banker as soon as he ascertains at the beginning of the day how much money he has at his disposal for loaning, will call in one of the money brokers and ask him to find a market for it. In most cases the broker serves the banker gratuitously because it gives him a standing with the banks and makes it easier for him to get time loans, thereby making him of greater use to his customers and consequently increasing his profits. The money broker then takes his place on the floor of the exchange and offers his cash for sale. All that he really does is to find some one who desires to borrow money and then to agree with the customer upon the rates which shall be charged in the same way as we saw with the case of the sale of the securities.

When the transaction is closed the money broker hands to the stock broker a slip containing the name of the bank for whose account the loans are made. The money broker's connection with the transaction now ceases and all further negotiations are with the bank. The call loan is made upon the security of collateral

which is furnished. In the transactions between the stock broker and the money broker nothing is said about the character of the collateral which is to be furnished. This is a matter, however, which is of the utmost importance to the bank. When the broker comes to make his loan he offers collateral which he wishes to deposit as security. The banker will carefully scrutinize this collateral. All the securities deposited must be satisfactory and must be "good delivery" according to the rules of the stock exchange—that is to say, they must be in good form and there must be nothing which would cloud or raise question concerning this title or the ability of the holder to transfer them to subsequent buyers.

As collateral the banks look with disfavor upon stocks and bonds which seldom change hands because it is difficult to find a buyer quickly for such securities when they are offered for sale. Active securities are preferred to those which are inactive because in a panicky market, when stocks are rapidly declining, all banks are forced to drop huge quantities of collateral upon the market in order to protect themselves. Their contracts with the brokers are such that at any time they can either demand immediate repayment for the loan or an increase in the amount of collateral which is furnished for its security, but in case neither request is honored the bank will immediately sell the securities through some broker upon the exchange in order to dispose of them before the fall in their price will carry their value below the amount which the bank has loaned upon them. It is of the utmost importance therefore that the bank be sure to find a ready market for the collateral which they hold, not only in good financial weather, but also when the stress and storm of a panic is at hand. The rule deciding the value of a security

in the minds of the banker, therefore, is not what it will sell for under good conditions, but what it will bring under adverse conditions. Bankers also discriminate against the stock of manufacturing companies at least to the extent that it will not make a loan on collateral which consists of industrial stocks alone. If they do make a loan upon this kind of collateral they will frequently charge a much higher rate of interest, or otherwise they will ask a much larger margin than the customary 20 or 25 per cent. In many cases, however, the brokers give collateral which consists of a mixture of railroad securities and industrial securities. In the case of the United States Government bonds, they are considered so secure and their market so uninterrupted that bankers as a rule require little or no margin.

30. *Interest of banks in security values.*—This situation creates a most intimate relation between the security market and the money market. The broker, as we have seen, executes a large percentage of his orders on a 10 per cent margin. It has been estimated that over 90 per cent of the business done by brokers consists of speculative transactions of this character. The broker probably advances a portion of his own capital toward the purchase price of the security, but the major portion—80 per cent of the purchase price—he must borrow from the bank. Thus, if we take 1,000 shares of stock at a market price of $100, $10,000 would be advanced by the customer, $10,000 out of his own pocket and the remaining $80,000 by the banks, which would hold the stock as security for the loan. These amounts of course may vary with different transactions. It is not uncommon to find a broker carrying a transaction with the use of none or probably only a very small portion of his own capital. He may, for example, demand

a 15 per cent margin from his customer and may succeed in getting 85 per cent credit from his bank.

In an ordinary market there are millions and millions of securities purchased and held on speculation. While these securities are regarded as belonging to the speculator who has bought them, they are in reality in possession of the banks which hold them as collateral for loans they have made upon them. The money lenders and bankers, therefore, have the largest amount of money invested in speculative securities, and the greater proportion of this money, it must be remembered, is the surplus funds of the country banks and a portion of their reserve loaned to the New York banks.

So-called country banks, which include not only those in rural districts but those in towns and cities having less than 500,000 population, have during a large part of the year surplus funds for which they cannot find a profitable investment. The surpluses of the farmer, merchant and manufacturing company have given them deposits in excess of the demand for money. This is particularly true in the agricultural districts of the middle west and south where the banks have difficulty in finding a sufficient quantity of three and four months promissory notes to keep their funds employed. On the other hand the banks in large reserve and central reserve cities and particularly those in New York are almost always in the market for purchasing the surplus funds of banks either upon time or call—that is for a certain period of thirty, sixty or ninety days,—or for borrowing with the understanding that the money will be returned immediately upon demand. The interest paid for these surplus funds is usually low, averaging about 2 per cent. The country bank, however, is willing to invest its surplus money in this manner, for the

low rate is attractive if no other use can be found for the funds. It happens, therefore, that not only the percentage of the reserve of the bank which under the law can be sent to reserve agents but also the unloaded funds of the bank are sent to the large cities.

A very large percentage of this surplus money goes to New York. It is estimated that under normal conditions over 200 million dollars of money coming from this source are in the hands of the New York banks. We recollect that a very large proportion of the loans of the New York banks are made to stock brokers. This class of business men makes the most important customers of the bank, in fact, some of the largest banks of the country have few customers outside of the brokerage business. It is the brokers who create the enormous demand for money which enables the New York banks under ordinary times to absorb all of the surplus funds which are offered to them from all other sections of the country.

31. *Over-certification of brokers' checks.*—The method by which the broker finances the purchase of stock for his customer when a large percentage of the money comes from the bank is interesting. Suppose a broker has purchased $100,000 of stock for a customer. He contemplates securing an $80,000 loan from the bank on this stock. In order to negotiate the loan it is necessary to have the stock in his possession so as to be able to offer it as collateral at the time the application is made. On the other hand, however, before he can get possession of the stock from the seller he will be called upon to make payment in full. In the meantime it is probable that the broker will have a balance in bank which is much too small to enable him to draw a check for the amount of the purchase price of the stock.

Here is a gap which must be bridged in some way. The broker must get the money and it is only worth while to apply to the banks. Without some arrangement the whole business of speculation would cease. Until a few years ago this gap was bridged by the practice of "over-certification." Under this arrangement when the broker is called upon to pay for the $100,000 of stock he draws a check upon his bank to the order of the firm from whom he has purchased the stock for $100,000. This check is sent to the bank where the broker keeps his account for certification. This is a practice which is quite common in all banking communities. Certification consists of a formal endorsement of the check of the bank guaranteeing that it will be paid when presented. It is intended to be a certification by the bank that the broker has sufficient funds on deposit to meet the check when it is presented. This guarantee is affixed by the cashier or paying teller of the bank, who endorses the check across its face certifying that the signature is correct and also that the bank is willing to pay the check upon presentation and identification, or when it comes through the clearing house. The broker's balance is perhaps only $25,000, nevertheless the bank has certified a check for $100,000. This is called over-certification and is simply one form of the great system of credit existing between the banking and brokerage business.

The practice of over-certification amounts to a temporary loan. In order to secure this privilege from the bank the broker has entered into an agreement which provides that in return for a certain minimum balance which the broker shall keep at all times, the bank will over-certify his checks up to a certain specified amount. It is also understood that as soon as the stock is secured

from the seller, it is to be taken to the bank and offered as collateral for a call loan. The temporary loan which the broker had made by the over-certification of his check is therefore transferred into a regular call loan. But this practice of over-certification is now extinct. It existed for many years in direct violation of the National Bank Act, which provides "That it shall be unlawful for any officer, clerk or agent of any National Bank to certify any check drawn upon the Association unless the person or company drawing the check has on deposit with the Association at the time an amount of money equal to the amount specified in said check." In spite of the provision of the law and the punishment which is provided for its disobedience, over-certification went on for years. The magnitude of the practice can be judged from the fact that in a single year it is estimated that over fourteen billion dollars of checks were over-certified in this manner.

32. *One-day unsecured loans.*—At the present time the bankers and brokers escape the law by a practice which in reality is little different. The broker who desires a certified check for an amount in excess of that which he has on deposit will go to the bank and present his own note, drawn to himself and endorsed by him, but by no one else, for discount. This note is made payable the same day on which it is presented and it is understood that it will be taken up before the close of banking hours by the broker, who will deposit the collateral which he had purchased and make call loans for the amount of his indebtedness. The bank discounts this note and places the proceeds to the credit of the broker. This gives him a balance on the books of the bank equal to or in excess of the amount for which he has asked certification.

The officers of the bank are therefore relieved of the necessity of over-certifying his checks, for the broker's balance is now equal to the amount for which he desires certification. This practice, while evading the law, does not give any added security to the bank, for they may offer large loans upon no other security than the promise of the broker to repay them. This promise is not secured in any manner. The position of the bank, therefore, so far as safety is concerned, is not different from what it was when over-certification was the rule. In spite of the exceeding laxity of this arrangement very few losses have resulted. The banks are very conservative about extending the privilege and before giving the broker the accommodation make very rigid investigations. They must have intimate knowledge of his character, his judgment and his business methods, and if he fails to meet the standard in any particular the privilege is refused. In the second place the bank stipulates that the broker must keep a minimum deposit—for example, $50,000, at all times in order to have the privilege of making one day loans to the extent of one million dollars. They count upon having the use of the $50,000 of the broker at all times, thus making the customer provide at least a portion of the 25 per cent reserve which must be held against his deposit.

Finally it is understood that the broker must make his deposits at the bank as frequently as he receives checks in payment for the securities which he sells. As a consequence the broker frequently makes deposits six or seven times a day, instead of once at the end of the day's business. As a result of this the broker, while he has received a large unsecured loan, is on the other hand receiving at frequent intervals deposits representing payments from firms which have bought securities

from his house. The practice of over-certification still exists to some extent in the case of state banks and trust companies. In this class of institution the prohibition against over-certification is not so strict and they therefore continue the practice.

33. *Brokers' interest in condition of banks.*—It is the business of the officers of the bank to keep all of the funds which are available for loaning to customers employed as constantly as possible. The profits of the bank come out of the interest received for the loans. If the institution can, therefore, keep all of its money employed at all times it should make a large profit. Each thousand dollars of idle money decreases the profit which the bank would make. It follows, therefore, that when the banks have a surplus of money available for loans, proposals from responsible customers will be welcomed. On the other hand, when the bank's available funds are limited or exhausted the bank officers are forced to keep their loans within the amount which is available. When the banks have little money to loan, the brokers find difficulty in securing the funds necessary to carry out the margin transactions of their customers. It follows, therefore, that there is a most intimate connection between the activity of the brokerage business and the condition of the banks.

34. *The bank statement.*—The brokers are anxious to know from time to time what the situation of all the banks in the community may be. Such information of the condition of the banks is furnished in the form of a bank statement. In New York this statement is furnished by the clearing house every Saturday a few minutes after midday. In other cities the bank statement appears at different times, but there is some set day upon which it is issued. These bank statements are issued not

only by the banks in leading American cities but also by those in the large European cities. The Bank of England, which is the chief English bank and whose influence is most powerful upon the affairs of the entire world, issues its statement every Thursday. This statement is carefully watched by American bankers and brokers.

Let us take the bank statement issued by the New York clearing house for purposes of study. This statement gives the condition of all the principal banks, that is to say, it will furnish a statement of capital, loans, specie, legal tender, deposits, reserves and outstanding circulation. The first information concerning the bank statement is contained in the summary which comes out over the ticker tape which reports the quotations. This tape statement is merely a summary of the condition of the banks followed by a comparison of the previous week of gains and losses in the various items.

To most bankers and brokers, however, this general statement as it appears on the tape is not sufficient, and they will want to examine the statement at length with special reference to those particular banks with which they are doing business. It may be that while the great majority of the banks in the city are loaned up to their limit, the banks with which the broker has been doing business have a considerable amount of loanable credit, and it therefore follows that he is led to suppose that he will not suffer as severely from the stringency as the brokers dealing with other banks.

To enable the broker to make a more minute scrutiny of the bank statement than that possible from the information contained on the tape, there follows a full statement giving the names of the banks and stating in full the capital, surplus, loans, specie, legal tender, de-

posits and reserves of each. The following statement showing the condition of the New York clearing house banks for the week ending Sept. 3, 1910, will serve as an illustration:

BANK STATEMENT IN DETAIL.

Banks.	Capital.	Net profits.	Loans and discounts. Average.	Specie. Average.	Legals. Average.	Deposits. Average.
Bank of N. Y N. B. A.....	$2,000,000	$3,473,600	$20,304,000	$3,914,000	$921,000	$18,357,000
Bank of the Manhat. Co....	2,050,000	4,105,700	31,000,000	12,988,000	1,678,000	40,700,000
Merchants' National.....	2,000,000	1,762,000	20,366,000	4,246,000	1,313,000	21,113,000
Mech. and Metals' Nat'l....	6,000,000	7,883,800	54,097,300	11,879,100	1,092,000	52,283,600
Bank of America.....	1,500,000	5,787,100	24,666,200	4,454,200	1,969,900	24,752,000
Phenix National.....	1,000,000	703,800	7,625,000	1,962,000	373,000	7,307,000
National City.....	25,000,000	30,471,600	162,771,900	60,507,800	6,560,000	175,421,700
Chemical National.....	3,000,000	6,366,100	28,104,500	4,622,800	2,241,200	25,884,700
Merchants' Exchge. Nat'l...	600,000	564,500	6,819,000	1,564,500	160,800	6,901,500
Gallatin National.....	1,000,000	2,497,700	8,655,600	1,300,100	448,500	6,838,400
Nat'l Butchers and Drov...	300,000	153,300	2,679,900	446,200	56,900	2,258,000
Greenwich.....	500,000	822,400	7,524,100	1,931,900	196,200	8,357,200
American Exchange Nat'l..	5,000,000	4,194,600	34,453,100	5,732,300	2,549,300	32,309,900
Nat'l Bank of Commerce....	25,000,000	15,893,100	153,211,600	28,052,700	7,095,100	133,884,700
Mercantile National.....	3,000,000	2,656,300	14,760,800	1,854,000	1,066,700	11,141,900
Pacific	500,000	916,000	3,797,400	395,800	466,400	3,202,000
Chatham National.....	450,000	1,037,900	7,640,500	1,007,700	1,172,200	8,251,300
People's.....	200,000	460,200	1,977,500	462,900	135,500	2,236,400
Hanover National.....	3,000,000	11,707,400	71,110,500	14,423,000	6,890,400	81,407,900
Citizen's Central Nat'l.....	2,550,000	1,642,200	21,265,400	5,261,900	318,200	20,643,200
Nassau.....	500,000	521,800	7,002,800	714,100	1,221,300	7,881,600
Market and Fulton Nat'l....	1,000,000	1,681,800	8,688,800	1,535,200	1,250,000	9,099,000
Metropolitan.....	2,000,000	1,428,800	12,015,100	2,927,900	189,900	12,386,300
Corn Exchange.....	3,000,000	5,352,000	42,203,000	7,427,000	5,109,000	49,300,000
Importers & Trad. Nat'l..	1,500,000	7,432,100	25,981,000	3,571,000	2,263,000	23,389,700
National Park.....	*5,000,000	*12,300,000	81,535,000	20,144,000	1,182,000	84,735,000
East River National.....	250,000	102,600	1,485,400	313,200	89,000	1,447,800
Fourth National.....	5,000,000	5,650,700	27,794,000	4,429,000	2,291,000	26,456,000
Second National.....	1,000,000	2,038,300	12,458,000	2,707,000	351,000	11,969,000
First National.	10,000,000	19,855,600	100,733,500	27,730,100	1,991,900	87,088,000
Irving National Exchge.....	2,000,000	1,646,800	21,913,400	5,750,400	1,092,900	24,284,100
Bowery.....	250,000	819,000	3,574,000	903,000	59,000	3,819,000
N. Y. County National....	500,000	1,604,700	7,813,300	1,191,700	595,800	7,693,400
German-American	750,000	700,700	4,134,400	797,700	212,400	3,952,400
Chase National.....	5,000,000	7,472,500	76,364,900	15,583,300	5,257,500	82,974,400
Fifth Avenue.....	100,000	2,070,500	12,164,400	2,469,400	1,242,900	13,764,100
German Exchange.....	200,000	881,600	3,924,700	500,200	400,300	3,861,600
Germania.....	200,000	1,010,000	4,908,800	846,800	512,100	5,572,600
Lincoln National.....	1,000,000	1,526,600	13,659,700	3,192,200	1,127,300	14,944,600
Garfield National.....	1,000,000	1,177,000	8,167,500	1,781,000	241,000	8,062,300
Fifth National.....	250,000	489,700	3,382,300	654,000	245,500	3,609,100
Bank of the Metropolis....	1,000,000	2,089,800	10,833,700	837,100	1,783,100	10,449,900
West Side.....	200,000	1,023,400	4,379,000	969,000	219,000	4,807,000
Seaboard National.....	1,000,000	1,913,400	18,458,000	3,854,000	1,723,000	21,137,000
Liberty National.....	1,000,000	2,717,700	21,208,200	4,706,300	929,700	22,540,600
N. Y. Produce Exchange..	1,000,000	738,800	7,954,100	2,149,300	319,200	9,547,800
State.....	1,000,000	808,500	14,329,000	4,293,000	308,000	17,704,000
Fourteenth Street.....	1,000,000	332,500	5,640,400	1,208,500	452,100	6,257,300
Coal and Iron National.....	1,000,000	373,200	5,790,000	754,000	833,000	5,908,000
Totals average.....	132,350,000	189,131,400	1,251,326,700	290,946,300	70,196,200	*1,277,893,000
Actual figures Saturday morning.....			1,258,191,600	283,022,500	67,723,600	*1,275,551,500

* United States deposits included, $1,667,400. Percentage of reserve to average deposits other than United States, 28.29.

* United States deposits included, $1,666,700. Percentage of reserve to deposits other than United States on actual figures, 27.53.

It is important, however, in showing what the general banking position happens to be. If loans are increasing more rapidly than deposits or if loans are expanding and cash is falling, danger signals are plainly displayed for the stock operator and broker to read. The one item most closely watched is the excess of

the reserve above legal requirements. The Clearing House banks and all national banks in New York city are required to keep a cash reserve of 25% of their deposits and consequently if there is a large surplus in cash above 25% of the deposits brokers can be sure there will be plenty of money for them to borrow. To find what the surplus reserve is one needs merely add the specie and legal tenders and subtract one-quarter the amount of deposits. If there is a deficit the banks will almost invariably strengthen their position by calling loans and building up their cash resources and this process is painful to the stock market. The following statements are for the week ending September 3, 1910, and give the figures as obtained by averaging the condition of the banks for each day of the week including Friday and also the actual figures on Friday. The average statement is interesting, but of course it does not accurately portray the condition of the banks at the end of the week as the earlier days in the week count just as heavily in making up the average for the six days as the later ones. The statements of trust companies and state banks not members of the Clearing House also are given as well as the separate figures for state banks and trust companies.

CLEARING HOUSE MEMBERS, AVERAGE CONDITION

The changes, as compared with last week, are as follows:

	1910	Changes From Previous Week	
Loans	$1,251,326,700	Inc.	$3,072,700
Specie	290,946,300	Dec.	8,176,800
Legal tenders	70,196,200	Dec.	1,615,600
Reserve held	361,142,500	Dec.	9,792,400
Deposits	1,277,893,000	Dec.	5,610,200
Legal res. req.	319,473,250	Dec.	1,402,550
U. S. deposits	1,667,400	Dec.	3,900

Circulation	45,636,500	Dec.	1,275,600
New res. req.	319,056,400	Dec.	1,401,575
Surplus, old	41,669,250	Dec.	8,389,850
Surplus, new	42,086,100	Dec.	8,390,825

CLEARING HOUSE BANKS' ACTUAL CONDITION.

	1910	Changes From Previous Week	
Loans	$1,258,191,600	Inc.	13,640,600
Specie	283,022,500	Dec.	13,508,100
Legal tenders	67,723,600	Dec.	4,027,900
Deposits	1,275,551,500	Dec.	1,389,100
Surplus, new	32,274,900	Dec.	17,189,250

The average surplus now is $41,669,250, which compares with $15,388,000 in 1909, $59,644,950 in 1908, $7,352,750 in 1907, a deficit of $6,577,925 in 1906, a surplus of $4,831,350 in 1905, $38,438,250 in 1904, $17,296,975 in 1903, $4,097,450 in 1902, $6,915,875 in 1901, $26,056,250 in 1900, $2,458,925 in 1899, and $7,076,775 in 1898.

Not counting the reserve against United States deposits, the average surplus now is $42,086,100.

AVERAGE OTHER BANKS AND TRUST COMPANIES.

	1910	Changes From Previous Week	
Loans	$1,097,573,700	Dec.	$953,500
Specie	121,734,800	Dec.	163,400
Legal tenders	19,458,800	Dec.	192,600
Total deposits	1,210,203,600	Dec.	3,856,000

STATE BANK STATEMENT.

	1910	Changes From Previous Week	
Loans	$290,009,700	Inc.	$1,636,400
Specie	52,313,700	Dec.	489,600
Legal tenders	24,083,200	Dec.	633,400
Deposits	339,134,600	Inc.	653,800
Res've on deposits	97,980,600	Dec.	723,400
Percentage reserve	29.4	Dec.	0.3

TRUST COMPANY STATEMENT.

	1910	Changes From Previous Week	
Loans	$1,009,612,200	Inc.	$404,900
Specie	115,569,600	Inc.	29,500
Legal tenders	11,309,600	Dec.	74,800
Deposits	1,100,058,400	Dec.	3,776,600
Res've on deposit	134,428,600	Inc.	62,700
P. C. reserve	16.4	Dec.	0.2

CHAPTER V

THE ADMISSION OF SECURITIES TO THE PRIVILEGES OF THE EXCHANGE

35. *What may be traded in upon the exchange.*—The stock exchange, as we have seen, is a very efficient organization created for the purpose of trading in securities. It is not unlike a great auction room to which can be brought stocks and bonds by those desiring to dispose of them and where can be found those who are willing to purchase them in the auction sale. The stock exchange, however, differs from the ordinary auction room in that only selected classes of securities can be offered for sale or purchased. The exchange does not permit the broker-member to sell or buy any securities other than those which have been formally approved and admitted to trading upon the exchange. Every exchange maintains lists of the securities which may be dealt in, which include a large number of the prominent stocks and bonds of acknowledged value. Many make the mistake of believing that every stock which has any real value is dealt in on the exchange. This is far from true, for there are many securities which are more valuable and desirable than those offered on the exchange which have never been listed. Another common error is the belief that the securities traded in on the exchange have been selected impartially because of their merit, and that those which have not been selected must have been rejected because of some inherent defect. This conception is also wrong. The securities listed on the stock ex-

change range from one extreme to the other in point of desirability. Some are of the highest grade which could be desired while others are practically worthless.

Many critics of our stock exchange contend that the existence of these worthless securities on our exchange is an indictment of their management, for by refusing to list them they would not be given the wide market which they at present secure and therefore would be less likely to fall into the hands of innocent persons who suffer loss from their decline. One critic says:

> If there is a company with a speculative board of directors and whose stock has been watered until it will float a respectable navy an attempt is inevitably made to place its shares upon the exchange list. There never is particular difficulty in a large stock operator getting his stock upon the list, with the result that much genuine rubbish has been unloaded upon the public.

36. *Exchange assumes no responsibility for securities.* —We must recollect, however, in considering these objections that the stock exchange is simply a machine intended to facilitate the transfer of securities. Every exchange makes it distinctly understood that it guarantees absolutely nothing concerning the securities in which it permits trade. The buyer is to take all the risks and to assume the responsibility of loss through any deception which may be practiced. The exchange neither guarantees the value of the security nor condemns it. The judgment which leads to the purchase must come entirely from the investor, and the task of decision is thrown upon him alone. In addition the exchange absolves itself from any attempt to make the prevailing prices bear any relation to the intrinsic value of the security and it in no way attempts to influence the management of corporations either for the purpose of in-

creasing or decreasing the value of their stock. Nevertheless the Stock Exchange requires the managements to furnish ample information regarding securities to be listed. You will recollect that the Stock Exchange maintains a Committee on Stock Listing, which consists of five members, and to which are referred all applications for listing securities on the list of the exchange. Even after the Committee on Stock Listing has granted this permission it is necessary for this endorsement to be reviewed by the Governing Committee. The stock listing committee presents to the Governing Committee the full statement of the capital, number of shares, resources, etc., of the corporation making the application. This evidence is reviewed by the Governing Committee and if it decides to give its consent the stock may then be placed upon the list of the exchange. It will be seen, therefore, that any security to gain admission must pass the scrutiny of two committees, one of which is the supreme body in the government of the exchange.

37. *Conditions required for listing railroad stocks.*—The stock listing committee, in order to give regularity to this work, has drawn up a set of questions, which must be answered before a stock can be passed upon. The questions asked in the case of a railroad stock illustrate the sort of information which is desired. They are as follows:

(1) Location and description of property, and if possible a map.

(2) Title of company and by what authority.

(3) Route of road, miles completed and in operation.

(4) Contemplated extensions liabilities and assets.

(5) Earnings, and amount and description of mortgage.

(6) Lien or other indebtedness.

(7) Statement of, and liability for, any leases guaranteed.

(8) Rentals or car trusts and terms of payment thereof.

(9) Capital stock and securities. All officers and directors.

(10) Office of the company. Transfer office and registrar.

In the case of railroad bonds, the stock exchange lists bonds only upon completed mileage. The information desired is the following:

(1) Amount authorized.

(2) Date of issue and maturity.

(3) Names of trustees.

(4) Par value.

(5) Rate of interest.

(6) Whether subject to earlier redemption by securities—funds or otherwise, and whether convertible into other forms.

(7) Copy of mortgage duly certified.

(8) Proof that mortgage has been duly recorded.

The application must be accompanied by a balance sheet and an income account of recent date.

In the case of a re-organized company the exchange will require for purposes of listing a complete financial statement for a period of at least one year prior to the reorganization the receipts and expenditures in detail, a balance sheet, and a description of the new securities issued. The latter rule was made in 1895 as a result of the experience of the exchange after the panic of 1893. The industrial depression which followed this catastrophe placed one-third of the railroad mileage of the country in the hands of the receivers. When these

corporations succeeded in rehabilitating themselves it was found that new rules were necessary in governing the admission of the new securities to the privileges of the exchange.

38. *Conditions required for listing industrial stocks.*—The requirements exacted by the Stock Listing Committee of industrial or manufacturing companies for listing are as follows:

(1) Opinion of counsel that it has been legally organized and its securities legally issued.

(2) If a trust, a statement of the financial and physical condition of the constituent companies.

(3) A full description of the real, personal, and leased property.

(4) Proof that real estate is free and clear except as to stated liens.

(5) A report of responsible expert accountants showing results of business each year for at least two consecutive years, if possible.

(6) A balance sheet.

(7) A statement of the powers of the directors under the charter.

(8) An agreement that the company will not dispose of its stated interest in the constituent companies except on direct authorization of stockholders.

(9) That it will publish at least once in each year a properly detailed statement of its income and expenditures of the preceding year, and also a balance sheet at the end of its fiscal year.

39. *No supervision after listing.*—The requirements above set forth for listing the securities of various classes of corporations are strictly enforced by the committee. The questions asked must be fully and completely answered, and the information furnished must

show a reasonably satisfactory condition of affairs. Once, however, the corporation secures admission to the list, this supervision ceases. There is no further checking up of its affairs, and no further statements are obligatory except when further issues of securities are listed. The corporation may drift into a most unsatisfactory condition without any objection being raised by the exchange, with the consequence that securities may drop from the highest standing to a position where they become practically worthless. The only requirement made by the exchange concerning the future conduct of the corporation is contained in the following regulation:

> The Exchange recommends to the various corporations whose securities are here dealt in, that they shall print, publish, and distribute to stockholders, at least fifteen days prior to annual meetings, a full report of their operations during the preceding fiscal year; together with complete and detailed statements of all income and expenditures, and a balance sheet showing their financial condition at the close of the given period. The Exchange requests that stockholders of the several corporations take such action as may be necessary for the accomplishment of their recommendation.

While this regulation is not mandatory, the recommendation has almost the force of law and is complied with by almost all of the corporations.

40. *Advantages of stock exchange privileges.*—All classes of companies realize the immense advantage which they will secure by making it possible for their stock to be traded in on the exchange. The exchange is a great market to which any one can bring his securities confident that he will here find a buyer who will purchase at some price. The advantage of this position is well known and highly appreciated. A

man, for example, who owns a piece of real estate and who desires to sell it must first of all make a long and laborious search to find a person who is willing to buy real property. There may be many people who would like to buy real estate but the greater proportion of these would not be interested in property in his locality. When it comes to finding customers who would be interested in his particular property he finds that the number is still further reduced. Finally it is necessary for him to come to an agreement concerning the price. There is no market where he can go and be certain of finding a customer.

In the case of securities, however, the situation is different. The peculiar advantages or disadvantages which are inherent in every piece of real estate give to it individual characteristics. Each share of stock, on the other hand, is like every other share of stock of the same company. Its value is exactly the same. Any one, therefore, who is familiar with the value of the stock of a given corporation and who desires to purchase it cares absolutely nothing about receiving any particular share. The situation in the case of the stock is the same as if every piece of real estate in the same locality were of equal desirability and value. The market, therefore, for securities is much broader than for other classes of property. No individual search is necessary except for the general purpose of ascertaining the value of any given security. It is possible, therefore, to maintain a market such as the stock exchange for the purchase and sale of property where men would decide in the fraction of a second to accept or reject the offer as it is made on the floor. This gives the stock exchange its great value and commands for it the enormous volume of business annually transacted.

Now the owner of the security which is not listed on the exchange finds himself in a position very similar to that of the real estate owner whom we have been considering. He knows not where to go to find his market. There may be many people interested in his stock but their whereabouts is difficult to find, requiring much time, expense and above all, causing delay and uncertainty. He feels keenly the need of a market where he can take his stock and where he knows that the prospective buyer of such stock would inquire. This is furnished by the stock exchange. For this reason it comes about that the securities of most corporations of any considerable size are listed upon one or more exchanges.

41. *Unlisted department.*—The unlisted department was established in 1885. There was at that time a great decline in the value of railroad stocks which had been for many years a favorite security with investors. All classes of buyers began to turn their attention in other directions, and the industrials for the first time became prominent. The business of the stock exchange suffered, for most of the issues which had sprung into popularity were traded in on the curb or in the irregular exchanges. The stock exchange in self protection, therefore, established the unlisted department in order to secure business for its members in the stocks of the industrial companies which were unwilling to give up enough information to enter the listed department.

In August, 1909, the Stock Exchange authorities decided to abolish the unlisted department and other exchanges throughout the country have followed the example set by the New York organization. Requirements for admission to the unlisted department were so easy to comply with that the Exchange was con-

tinually criticized for its laxity, and as the original reasons for establishing the department no longer existed it was good business policy to do away with it. There is now only the regular list.

CHAPTER VI

THE ARBITRAGE BUSINESS

42. *Basis for the business.*—One of the most interesting things connected with operations on the stock exchange is the arbitrage business. Those engaged in this business endeavor to make money out of the inequalities which exist in the prices of stocks in the various markets in which they are sold. They buy stock in one market when the price is low and sell it, almost at the same moment, in some other market where the price is high, with a view of netting the difference between the two quotations. Arbitrage is frequently conducted between cities like New York and Boston, New York and Philadelphia, and formerly between the New York Consolidated and the New York Stock Exchange, situated only two squares apart. However, the arbitrage business is generally confined to operations between New York and London. It is between these centres that most of the business is done.

The arbitrage business is largely handled by the houses which are engaged in the foreign exchange business. At present there are about a dozen firms in New York which do an arbitrage business with London. The basis of the business to a large extent rests on the difference of time between New York and London and the consequent difference in the period during which these exchanges are open for business. The difference in time in favor of London is almost five hours—to be exact, it is four minutes and one second less than

five hours. It happens, therefore, that when the New York Exchange opens for business in the morning at 10 o'clock it is then four minutes to 3 o'clock in London. There is really only four minutes of time each day during which both exchanges are in session. But as a matter of fact, there is a good deal of trading going on in London after 3 o'clock. Because of this difference of time it happens that London has done almost a full day's business before the stock market becomes active in New York. The first sure indication, therefore, of the effects of important events upon the stock market to be had in the morning is the influence which they exert upon the London market. As a consequence the brokers and their customers as soon as they reach their office make a study of the London quotations, for they know that these quotations will very likely have an influence upon the opening of the New York market.

The London prices of American securities will not always coincide, however, with the prices which will be quoted in New York. Money may be tighter in London than in New York. The foreign prices of stock may suffer a loss through some local tendency which has a remote bearing upon the New York market. Any one of many factors may cause a variation in prices. This is the opportunity which the arbitrageur awaits and out of which he secures his business. Usually between 9:15 and 9:30 the London quotations begin to come in over the ticker and on the news slips. The news slip is a very important part of the Wall Street machinery. It appears from time to time giving a brief summary of all events likely to affect the stock market. These slips are distributed by boys to the various offices which have subscribed for the service. The slips con-

taining the London quotations will usually give the lowest and closing quotations in case the market is closed for the day, and opposite the closing quotation will give the New York equivalent, or the sum in American money which is represented by the New York quotation. This equivalent, however, is not accurate. It is really considerably higher than the New York equivalent and it is necessary, therefore, for the broker to reduce the London quotation to the price prevailing in the American market. This is done by a brief mathematical computation, which will be explained later. The reason why the two quotations are not on a par is due to the fact that all American stocks are quoted in London on an arbitrary basis—viz., that one pound sterling equals $5; that is to say, $1 equals 4 British shillings. When the exchange is perfectly normal one pound sterling exactly equals $4.8665, although the ratio of exchange will vary from $4.84 to $4.89. If a stock, for example, is quoted in London at 93½ the New York equivalent would be 90.69, provided sterling exchange rules at 4.85 in New York. Now it follows from this that if the New York opening quotation, for instance, is 91½ and he sells St. Paul in New York at 91¼ the New York arbitrageur would be certain of a profit of approximately 50 cents per share or $50 per one hundred shares, provided he was able to buy the stock at the equivalent of the London quotation. This, in brief, is one of the operations of the artitrage business. Of course, New York has to take into consideration the costs and expenses of completing the transaction.

43. *Conversion of London prices to American equivalents.*—The rule usually followed is to multiply the London price by the Wall Street price of demand sterling and then divide this product by five, which in the

foregoing illustration gave 90.69. Such arithmetical calculations if always necessary would prove burdensome, especially in view of the rapidity and promptness with which the transactions in the two markets must be carried out in order to reap any advantage resulting from a difference in the price of the same security in the respective markets. In order to lighten this work and eliminate the delay, various tables have been prepared to enable a quick conversion of London quotations to these New York equivalents. A much used table is that prepared by Mr. H. W. Rosenbaum, which appears in part below:

STOCK CONVERSION TABLES

EXCHANGE AT:

LONDON Price in pence	483	484	485	486	487	488	489	490
11.....	0.34	0.35	0.33	0.31	0.29	0.26	0.24	0.32
15.....	0.51	0.48	0.45	0.42	0.39	0.36	0.33	0.30
20.....	0.68	0.64	0.60	0.56	0.52	0/48	0.44	0.40
25.....	0.85	0.80	0.75	0.70	0.65	0/60	0.55	0.50
30.....	1.02	0.96	0.90	0.84	0/78	0/72	0.66	0.60
35.....	1.19	1.12	1.05	0.98	0.91	0/84	0.77	0.70
40.....	1.36	1.28	1.20	1.12	1.04	0.96	0.88	0.80
45.....	1.53	1.44	1.35	1.26	1.17	1.08	0.99	0.90
50.....	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00
55.....	1.87	1.76	1.65	1.54	1.43	1.32	1.21	1.40
60.....	2.04	1.92	1.80	1.68	1.56	1.44	1.32	1.20
65.....	2.21	2.08	1.95	1.82	1.69	1.56	1.43	1.30
70.....	2.38	2.24	2.07	1.93	1.82	1.68	1.54	1.40
75.....	2.55	2.40	2.25	2.10	1.95	1.80	1.65	1.50
80.....	2.72	2.56	2.40	2.24	2.08	1.90	1.76	1.60
85.....	2.89	2.72	2.55	2.38	2.21	2.04	1.87	1.70
90.....	3.06	2.88	2.70	2.52	2.34	2.16	1.98	1.80
95.....	3.23	3.04	2.85	2.66	2.47	2.28	2.09	1.90
100.....	3.40	3.20	3.00	2.80	2.60	2.40	2.20	2.00

Of course the table is not given in full, no columns being given for foreign exchange rates except for full numbers, and quotations being given only for every fifth point.

The use of the table is easily understood. Suppose for example that exchange is 4.87 and the London quotation of the stock in question is 75. The method of

arriving at the New York equivalent would be as follows:

London price	75
Deduct	01.95
New York equivalent	73.05

The 01.95 which is deducted from the London price of 75 is found by finding the quotation of 75 in the column entitled "London price" and then following the line until we reach the column for the rate of exchange at 4.87. Whatever the London price may be, all that is necessary is to deduct the figure found in the column designated by the rate of exchange. If the London price happens to be 75⅜ the same method would be adopted but one would add the fraction 0.37 to the price, making the equivalent 73.50.

If the stock happens to be quoted above par, the transaction works out a little differently. Suppose the London price of the security to be 150 and the exchange at 4.87, the calculation would then be as follows:

London price	150
Deduct 2.60 for 100– 2.60	...
Deduct 1.46 for 50– 1.46	4.06
New York equivalent	145.94

The table can also be used for converting the New York price into the London price. The procedure then usually followed is to take the New York quotation and add, instead of subtracting the difference shown in the table for this price. This, of course, is not exactly correct but it is near enough for all purposes and is the method usually followed, especially in a very active market.

44. *Computation of costs and profits.*—We have next to inquire how the arbitrageur ascertains whether or not the difference in the prices of securities is sufficient to

enable him to make a profit. In computing his profits the arbitrageur must determine whether or not he intends to ship the securities bought in the one market to the market where he has sold them. In case he ships the securities he must take into account a considerable number of factors besides the computation of the New York market or London equivalent from the quotation in the other market. Some of the heaviest expenses to which he is subject are the cost of transportation, insurance, the interest upon his investment during the time that the stock is in transit, and the cost of operating and conducting his business. Mr. Rosenbaum gives the following example as an illustration of the method used by the arbitrageur in computing the cost: He takes for his example 1,000 shares of St. Paul bought in London at 154½ and shipped to New York:

Bought 1,000 shares of St. Paul at 154½		£30,900
6d. commission per share, equals,	.25	
Contract stamp,	.01	
Cable to and from Liverpool,	.10	25.11
		£30,925.11

This is the cost of the stock in London upon the basis of the American rule that one pound sterling equals five dollars. If the stock is to be brought to New York, however, this amount must be converted to the American equivalent. Supposing that the arbitrageur buys a cable transfer at say 4.87¾ to be paid in New York upon delivery of the stock here with interest from the time of payment in London until reimbursement here—say about ten days;

£30,925.11 at 4.87¾	$150,839.37
Insurance (50c per 1,000)	75
Postage	1
Total cost in New York equals	$150,915.37
Per share, about	150⅞

This however, does not complete the transaction for no interest has been included in the calculation. About ten days' interest would have to be paid to the banker to cover the outlay for the use of the money while the stock is in transit. This interest can, however, frequently be avoided in cases where the stock need not be paid for until its arrival and formal delivery in New York. In many cases also, the item of insurance does not enter. Many of the large arbitrage houses do not insure shares of stock which are transferred from one market to another. They take the certificates before a notary who certifies the number of each share. In case the stock certificates are lost, new ones are issued by the corporation. The cost of insurance, however, is small, being only about fifty to sixty cents per thousand of stock. The saving is so insignificant, therefore, that many houses regard it as poor practice to omit insuring the safe carriage of the securities. This is particularly true in the case of bonds.

The most important additional charge is for the purpose of making the transaction bear its proper share of the cost of the operation of the business, such as office expenses and the like. These are, however, an indeterminable quantity and it is not usual to apportion them on the various transactions. The amount of profits secured from the business are used to meet expenses and the balance is divided by the firm. The arbitrageur must bear in mind, however, that his office expenses are running and must see to it that each day's transactions yield a sufficient profit to pay his expenses and leave him something for his work and risk. The method of arriving at the cost of carrying through the transaction where securities have to be shipped is set forth by Mr. Rosenbaum as follows: In this case the cost of

1,000 shares of Ontario and Western sold in London at 35 and shipped to New York was selected for illustration:

COST IN NEW YORK

Sale of 1,000 Ontario and Western at 35		£7,000.00
Less commission and stamp, £25	.1	
Cable expenses	.9	
English Government and stamp of two shillings on each ten shares 10		35.10
		6,964.90
We ship the stock to London with draft, and sell the draft to banker at say $4.87 amounts to		33,917.11
Less insurance and postage		17.48
or equal to 33-99/100 per share		33,899.63

One of the heaviest expenses connected with the arbitrage business, as we have seen, is the expense of shipping the securities. This expense must be deducted from the profits of the transaction and there is really no advantage gained in return. As a consequence the arbitrageur endeavors, as far as possible, to eliminate the necessity of shipping from one market to the other. The success of a house is often largely due to the fact that it makes very few shipments between markets under ordinary conditions. The method by which shipping is avoided is interesting. The arbitrageur, for example, may sell a certain security in New York, but the next transaction may represent a purchase of the same stock in New York as against a sale in London. The arbitrageur finds that he has both bought and sold one hundred shares in each market. All that is done is to exchange the stock between the seller and buyer in the same city, and the accounts balance. This practice is followed to a very large extent and the arbitrageur is always gratified when he can settle up his various accounts in this manner.

It is not necessary, however, that he should always

be able to do this in order to avoid the shipment of securities. It may happen, for example, that he is obliged to continue purchasing the same stock in one market and selling it in another for a long period. Here he may do what the short seller does to fulfill delivery. He can lend the stock in the market where he has continued to buy stock, and where it is accumulating on his hands. In the same way he can borrow in the other market to fulfill his contracts.

For weeks or sometimes even for months this may go on, the arbitrageur in the meantime looking for a favorable opportunity to even up. When the price is favorable he will sell his accumulated stock in the market where he has loaned it out, while he will buy stock in the other market in order to return that which he has borrowed. Under ordinary conditions the arbitrageur will patiently await these opportunities realizing that the fewer shipments he has to make the greater will be the profits of the year's business.

CHAPTER VII

METHODS OF TRADING AND THEIR CONSEQUENCES

45. *What kinds of transactions are permitted?*—Before we can begin a detailed study of the system of speculation it is necessary that we investigate the various ways in which stock can be bought or sold upon the exchange. The rules governing the purchase and sale of securities on the various exchanges are practically uniform. Their aim is to prevent pure betting or gambling, or at least to curtail the amount of it. In this purpose, however, they have only partly succeeded. The rules of the exchange provide for four classes of transactions and prohibit all members from engaging in any kind of transaction which does not come within the classifications. The four ways in which bids and offers can be made are as follows:

1. "Cash" transactions,
2. "Regular way" transactions,
3. "At three days,"
4. "Buyers' or sellers' options."

By "cash" transactions, the exchange means that the stock is to be delivered by the seller to the buyer and paid for upon the day on which it is sold.

"Regular way" transactions are made with the understanding that the delivery and payment is to be made before 2:15 P. M. on the day following the date of the sale.

"At three days" transactions are those in which de-

livery is made upon the third day following the making of the contract.

"Buyers' or sellers' options" must be for a period of not less than 4 days, nor more than 60 days.

It has been estimated that over 95 per cent of the transactions on the exchange are "regular," that is, the contracts provide that delivery of the securities must be made on the day following the date of the sale. If the seller fails to deliver the stock before 2:15 P. M. on the following date, the purchaser immediately notifies the chairman of the exchange, who proceeds to buy the securities "under the rule," or in other words, on the open floor of the exchange. If he is forced to pay more for them than was specified in the original contract the purchaser has a claim against the seller for the difference, which must be settled to prevent the member being disciplined by the exchange.

The buyers' or sellers' options are contracts by which the buyer has the right to a certain number of shares at a specified price at any time within the period of the option. This right, of course, is exercised only in the event of the prices of the security moving so that the execution of the right will give a profit. The device was probably copied from the system of "futures" which is so extensively used in grain and cotton speculation.

In the ordinary "cash" and "regular way" transactions you will recollect that there is no written contract between the buyer and the seller. The evidence of the agreement is the memoranda made by the two parties on the floor of the exchange when the securities were bought. The rules of the exchange, however, provide that all agreements for three days or more must be in writing, and that the written contracts must be ex-

changed before the close of business on the following day. The rules also provide that on such contracts regular interest may be charged. In case the party owning the option should desire to have the securities delivered, it is first necessary for him to give one day's notice, not later than 2:15 P. M. of his wishes, and the securities will then be delivered at the regular hour on the succeeding day.

As has been said, all of the transactions except those described are forbidden. Fictitious transactions are especially under the ban and proof of their existence will lead to the immediate expulsion of the offending member. These rules, however, while enforced in the letter are, nevertheless, constantly violated in the spirit.

46. *Classes of security buyers.*—The customers of the exchange are classified in various ways. A distinction is always made between the professionals and the outside public,—sometimes derisively called "lambs," because so often fleeced or sheared. While many answer the siren call to get money without work, few are permitted to know its delights. The professionals are brokers who make a specialty of certain stocks and who deal for themselves, looking for small profits on a large volume of business to give them satisfactory returns for their capital invested and for their risk and work. The public consists of the thousands of ordinary business and professional men who support and give business to the brokers' offices. The number of people who furnish business for the Stock Exchange constantly varies. In a dull market when there are small fluctuations in security values, and frequently in a declining market when prices show a startling downward tendency, the public plays but a small part in the situation. This market is

then frequently referred to as a professional market, owing to the absence of the outside buyers.

On the other hand, in boom times when the prices of securities are steadily advancing, even in a speculative manner, the public then is a prominent factor. The average man is an optimist. He usually buys stock in a rising market upon the assumption that it will go still higher. He sees little to interest him in a stagnant or a declining market.

An interesting classification of the patrons of the Exchange is that made by the Hughes Committee:

(1.) Investors, who personally examine the facts relating to the value of securities or act on the advice of reputable and experienced financiers, and pay in full for what they buy.

(2.) Manipulators, whose connection with corporations issuing or controlling particular securities enables them under certain circumstances to move the prices up or down, and who are thus in some degree protected from dangers encountered by other speculators.

(3.) Floor traders, who keenly study the markets and the conditions of business, and acquire early information concerning the changes which affect the values of securities. From their familiarity with the technique of dealings on the Exchange, and ability to act in concert with others, and thus manipulate values, they are supposed to have special advantages over other traders.

(4.) Outside operators having capital, experience, and knowledge of the general conditions of business. Testimony is clear as to the result which, in the long run, attends their operations; commissions and interest charges constitute a factor always working against them. Since good luck and bad luck alternate in time, the gains only stimulate these men to larger ventures, and they persist in them till a serious or ruinous loss forces them out of the "Street."

(5.) Inexperienced persons, who act on interested advice, "tips," advertisements in newspapers, or circulars sent by mail,

or "take flyers" in absolute ignorance, and with blind confidence in their luck. Almost without exception they eventually lose.

47. *Bulls and Bears.*—A second classification divides the customers of the brokers upon the basis of their attitude toward the future movement of the prices of the various securities. There are always two factions in the market,—one trading upon the strength of and working for a rise in the price of their securities, the other working and hoping for a fall in the price of stocks. Between these opposing factors the values of stock fluctuate first in one direction and then in another.

Now the buyers of stock who are contemplating a rise in its value may purchase their shares in one of two ways. The first way is to buy the securities outright, paying the full purchase price for them. These people are either investors or conservative speculators. They take their securities and lock them up in a vault and go on attending to their everyday affairs until such time as their expectations have been realized, when they will take the securities to the broker's office, have them sold and pocket the expected profit. If their judgment has been erroneous and the value of the securities declines instead of advancing they can either hold the securities until the price rebounds, which is very frequently done, or can direct their sale and take the loss. These people, as a rule, give little concern to the banking or brokerage interests. Their stocks having been paid for outright they require no money to carry them in a falling market. This class of buyers, however, is in the minority. The great majority of those purchasing in anticipation of a rise in the prices of stocks do so upon a margin by which they advance 10 per cent of the value of the stock, the other 9-10 of the funds

being secured through the efforts of the broker. The method by which such transactions are carried on has already been explained.

48. *Process of selling short.*—The other side of the market—those who are counting upon a fall in the value of stock—can operate only in one way. It is obvious that no one could make a profit by buying stock outright, paying for it and locking it up in anticipation of a fall in its value. It is possible, however, for a man to make money in case he can predict a fall in the value of a security.

It is believed in Wall Street that the public is made up of bulls, or those who play for a rise in the value of stocks, while the professionals are more frequently the bears, or those who anticipate a fall in the value of securities. This is founded upon the fact that the public as a rule does not speculate upon a falling market. In fact, not many understand how the transaction is carried through. The method by which men speculate on a falling market is by the operation known as selling "short." The rules of the Exchange on their face prohibit a man from selling stock which he does not possess, nevertheless this practice is carried on very extensively.

In order to understand a short sale let us take an illustration. Suppose a man believes that he has inside information that a decision will be rendered by the Supreme Court of the United States which will be very disastrous to the interests of a certain railroad company. He argues that as soon as the decision is announced it will be immediately reflected by a sudden fall in the value of the stock of this corporation. The market is quick to learn of every favorable or unfavorable condition which may affect the securities which are traded in upon

the exchange. Now if the man desires to take advantage of the opportunity which he believes is presented, he will sell short—let us say—300 shares of this company's stock in order to make a profit out of the fall in price which he feels certain will come. The broker having received these instructions and the necessary funds to carry them through now proceeds to execute in the regular way provided for under the rules of the exchange. He sells 300 shares of the railway company's stock for the customer, knowing that at that time the customer in all likelihood does not own or intend to purchase the 300 shares of stock which the broker is obligated to deliver. Under his contract, the broker must turn over the stock to the buyer before 2:15 P. M. on the following day. Before this time arrives the broker borrows the stock.

There are a number of institutions in Wall Street and some connected with every exchange which make a business of loaning stock to brokers who desire to put through short sales. In the New York exchange there is a post on the floor around which those desiring to loan stock or to borrow it can gather and effect their transactions. It would seem strange that any one should desire to loan stock, yet such a transaction is not without its advantages. The borrower of the stock must deposit with the lender a sum of money equal to the market value of the stock at that time. In other words he deposits the equivalent of its purchase price in the open market. This gives to the lender the full value of the stock, and at the same time he is entitled to demand its return at any time upon short notice. If he had decided to borrow money upon the stock as collateral, instead of loaning it, and had taken it to a bank he would not have secured its full value, but perhaps

have been given only 80 or 90 per cent of this amount. He, therefore, can raise from 10 to 20 per cent more money upon his security by loaning it than he can by using it as collateral for loans. It is largely because of this that there are usually a large number of lenders of securities in the market.

The broker now has in his possession stock which he has borrowed. He takes this and makes delivery in accordance with the rules of the exchange. The transaction as between the selling and buying broker is regular in every way and there is nothing in its face to indicate that the sale was in any way extraordinary. The fact is, however, that the broker's customer has sold and delivered stock which he does not own, but which he hopes to be able to buy at a later time at a lower price. If the expectations of the customer come true and the court decision, rendered in accordance with his forecast, causes the value of the stock to decline, he is now in a position to profit by his perspicacity and the risk which he has taken, for he can now go into the open market and purchase 300 shares of the railway stock at a lower price than that at which he sold it. As soon as he secures delivery of the securities which he now buys, his broker takes them to the firm from which the stock was originally borrowed, returns them and receives a check for the amount of money originally deposited together with interest at the prevailing rate upon the sum for the time in which it was in the hands of the lenders of the securities.

If the customer, on the other hand, did not succeed in accurately forecasting the nature of the court's decision, it is likely that the stock will advance upon the strength of the favorable ruling. In this case he would endeavor to cover his "short" sale. He would do this

by buying stock in the open market as speedily as possible. He would, of course, have to pay more for it than the amount for which he sold it. The broker would turn the securities over and get back his original deposit and the customer would lose the difference between the amount which he was forced to pay for the stock plus costs and charges and the amount for which he sold it. In any normal market there is always a considerable "short" interest, or in other words, a considerable number of people who are selling stock short in anticipation of a decline. There is also at the same time likely to be a considerable "long" interest, or people who have bought stock in anticipation of being able to sell it at a higher price. The conflict between these two interests, together with the influence exerted by outright buyers is the force which largely fixes the price of securities. A very active long interest, buying stock in large amounts, will force prices up. On the other hand, large "short" sales make heavy offers and buyers can sometimes be found only when price concessions have been secured. When the market, however, is dominated by either one or the other interest, it usually follows that a reaction in the prices of stocks will immediately follow.

The hammering of the prices of securties caused by the constant short selling drives the prices down to the point where the bulls see a chance to make an advance. Their efforts are frequently aided by the outside buyer who figures that the existing price of the security offers him a desirable investment. Buying from these two sources immediately absorbs all of the stock which the shorts offer. As soon as this movement begins—in fact, sometimes before the price of the security has been ad-

vanced—the short interest "scrambles to cover," buying in stock in order to close up their transactions.

49. *Some stocks are closely held.*—It is common to hear that a stock "is closely held" and that there is little of it available for buying and selling. By this is meant that a very large proportion of the issue has been purchased by financial institutions, corporations or other interests who have bought it for investment purposes or to carry out some plan entirely apart from any small fluctuations in its prices. The stock of the Reading Company is an illustration of this situaton. A very large proportion of this issue is held by the Lake Shore and Michigan Southern and by the Baltimore and Ohio Railroad Companies. These corporations purchased the stock because of a desire to preserve harmony in railroad conditions, by having a voice in the management of a railroad which was a factor in shaping policies in the territory in which they operated.

The result of this large stock holding by these corporations together with the considerable amounts held by financial institutions which are unlikely to offer them for sale except under unusual circumstances reduces the quantity of the stock of this company available for transactions upon the exchange to a relatively small amount. In counter-distinction to the Reading, the stock of the Pennsylvania is widely held. This corporation has on its books over 60,000 stockholders who participate in its profits and own its securities.

The short selling of stock which is closely held is usually carried on circumspectly by well informed people. Although the small amount of stock which is available makes it easier to bring about the desired fluctuations, nevertheless there exists a strong possibility of

short interests overselling and thereby creating a "corner."

50. *The corner.*—A "corner" in a security may be brought about either accidentally or as a result of market manipulation. It is possible only when there is in existence at the time a heavy short interest in the market. A large number of the famous corners have been brought about by shrewd speculators who have started out deliberately to fight the shorts either in the stock markets or in the produce market. These individuals or cliques quietly go about obtaining possession of the stocks or warehouse receipts which are available for delivery in fulfillment of speculative transactions. The short sellers have disposed of a large amount of stock, depending upon their ability to purchase it back at a future time at a lower price. The buyers of this stock are, of course, the manipulators who are endeavoring to create a corner. They quietly buy up the stock, guarding their intentions, and then turn it over to firms who will lend it to the shorts. They do this until they get the market bare of all available securities, that is to say, until they have bought up practically all of the available stock in the market. If the bear interest is large and persistent, this movement frequently goes on without causing any marked fluctuation in the price of the security.

As soon as manipulators feel that they have succeeded in their purpose they begin to call for the return of the stocks loaned to the shorts. The bears immediately endeavor to buy to fulfill their contracts. They find, however, that they cannot secure any stock because it is already held by the operators who are engineering the corner. The short sellers are thus caught in a vise. If the brokers fail to carry out their contracts they are

ruined and will be expelled from the exchange. The only way in which they can escape is by settling at the price fixed by the operator or clique who worked the corner.

One of the most famous corners which was ever deliberately planned was that worked by Cornelius Vanderbilt in the case of the Harlem Railway stock. Mr. Vanderbilt originally bought this stock for $8.00 or $9.00, for each $50.00 share. By hard work and good management the road was so improved that the value of the stock jumped to $58.00 per share. After having thus effectively established the credit of his property, Mr. Vanderbilt decided on the extension of his system. As soon as he applied to the legislature of New York for the franchises necessary to carry through these improvements the public became aware of what was going on. The franchises were eventually secured.

In the meantime the realization of the advantages which would accrue to the road advanced the price of its stock until it reached 117. The political interests whch had been instrumental in securing the franchises for the railroad profited by this rise, having bought stock in anticipation of the event. They, however, were not satisfied with their profit, but decided that there was another splendid opportunity awaiting them. Their asset was the complete control of a legislature which would do their bidding. They evolved the plan of selling the stock of the Harlem Railway short, at the high price then prevailing, and after this had been done, they would have the legislature revoke the franchise which had been granted, causing dismay and consternation among the holders of the stock of the company and a consequent heavy fall in its price. As soon as this occurred the politicians would go into the market and buy

up the securities necessary to cover their short sales.

By some method, however, Mr. Vanderbilt secured a knowledge of this scheme. He at once decided not only to block the move but to profit by the incident. All of the stock which they sold short he purchased so that ultimately he held options from the political syndicate for more than the total issue of the Harlem stock. The politicians thus placed themselves in a position where they promised to deliver more Harlem stock than was in existence. Mr. Vanderbilt had succeeded well in his venture. He simply waited until the options matured. When the time for delivery came and the politicians endeavored to secure the shares there were none obtainable in the market. The price of Harlem stock in the meantime had dropped to about 72. As soon as they discovered their predicament they began to buy stock at any price it was offered. Quotations advanced by leaps and bounds until they finally reached 179. Here it remained. Mr. Vanderbilt then disclosed to them the full extent of their position. He dictated the terms on which he would settle, which were the regranting of the franchise and a settlement at the figure then prevailing. The syndicate had no other alternative than to accept his terms.

The politicians smarting under the costly defeat cherished the hope that they might revenge themselves upon Mr. Vanderbilt. A short time later Mr. Vanderbilt secured control of the Hudson River Railroad and he immediately set about preparations to consolidate this road with the Harlem. The politicians anticipated that Mr. Vanderbilt would take advantage of the opportunity to make money through the rise in the prices of the stock—a rise which seemed almost inevitable because of the advantages of a united property. It occurred to

them that here would be a splendid opportunity to retaliate for that first corner in Harlem which had been so disastrous to them. They consequently resolved to sell Hudson stock short and then through manipulation of the legislature to balk Mr. Vanderbilt's scheme by refusing the necessary permission for the consolidation of the property.

Mr. Vanderbilt soon became aware of this plan. As soon as they began their bear raid upon the prices of Harlem stock, buying orders came from every source by tens of thousands. Every option which was offered was purchased. The tremendous volume of transactions exhausted both sides, Mr. Vanderbilt being forced to extremes to raise the money necessary to purchase the stock which was offered. In the meantime the politicians carried out their plan, the legislature refusing permission for the consolidation. Harlem stock immediately fell from 150 to 90 and Mr. Vanderbilt repeated his former tactics and simply sat still and waited. The shorts as soon as they tried to cover their transactions found that there was no stock available. The price jumped up by great leaps until it finally reached 285. Mr. Vanderbilt determined that this should be a costly lesson and declared that he would not settle under $1,000 per share. The shorts could not purchase the stock and therefore, were at the mercy of the only person who had sufficient stock to enable them to carry out their contracts. Wall Street was in a violent panic, for every brokerage house realized that if settlement had to be made at Mr. Vanderbilt's figure it would mean universal ruin. Influence was brought to bear upon Mr. Vanderbilt who altered his decision and was finally induced to accept settlement at 285.

There have been many other famous corners which

were deliberately planned. Some of these have been successful and some have cost their perpetrators enormous sums.

The second class of corners is that which arises out of accidents rather than by the result of any manipulation. One of this class was the Northern Pacific corner of 1901. It brought about the panic of that year. There were two great railroad interests in that section of the country. The Hill interest then dominated the Great Northern system which closely paralleled the Northern Pacific lying a few miles to the north. The second interest was dominated by Mr. Harriman who owned the Union Pacific which lay to the south of the Northern Pacific's line. The Northern Pacific at that time was not under the domination of either interest. Lying as it did between the two interests, both desired about the same time to secure control. As a consequence the two great syndicates headed by Hill and Harriman began a widespread and vigorous campaign for the purchase of this stock. The prices of the stock steadily advanced under the influence of such general and continued bidding. Both interests, of course, kept the real purpose of their purchase and their intent carefully guarded, in order not to appraise the public of their desire and thus advance the price of securities upon themselves.

Many speculators as they saw the stock advance in value believed that it would pass the point where it could be expected to remain and therefore figured out that a decline was to be expected. A large number of them began to sell short, anticipating a fall in the price of the stock. The thousands of shares thus called out were of course eagerly snapped up by the contending syndicates. When the shorts endeavored to cover they found

that there was practically no available stock on the market. The supply had been exhausted by the greedy demand of the rival syndicates. The shorts in their effort to cover, bid the stock up until it finally reached 1,000 per share. The market was thrown into the wildest confusion as soon as the gravity of the situation was realized and it became generally known that there was a struggle on between titanic forces for the control of the great system. It was finally possible to make an arrangement for the settlement of the corner which prevented any widespread disorder.

51. *Ethics of short selling.*—There are those who believe it is morally wrong as well as injurious to the best interests of the securities market to sell short. The point is well disposed of in the Hughes report:

> We have been strongly urged to advise the prohibition or limitation of short sales, not only on the theory that it is wrong to agree to sell what one does not possess, but that such sales reduce the market price of the securities involved. We do not think that it is wrong to agree to sell something that one does not now possess, but expects to obtain later. Contracts and agreements to sell, and deliver in the future, property which one does not possess at the time of the contract, are common in all kinds of business. The man who has "sold short" must some day buy in order to return the stock which he has borrowed to make the short sale. Short-sellers endeavor to select times when prices seem high in order to sell, and times when prices seem low in order to buy, their action in both cases serving to lessen advances and diminish declines of price. In other words, short-selling tends to produce steadiness in prices, which is an advantage to the community. No other means of restraining unwarranted marking up and down of prices has been suggested to us.

The legislation of the State of New York on the subject of short-selling is significant. In 1812 the Legislature passed a

law declaring all contracts for the sale of stocks and bonds void, unless the seller at the time was the actual owner or assignee thereof or authorized by such owner or assignee to sell the same. In 1858 this act was repealed by a statute now in force, which reads as follows:

"An agreement for the purchase, sale, transfer or delivery of a certificate or other evidence of debt, issued by the United States or by any State, or municipal or other corporation, or any share or interest in the stock of any bank, corporation or joint-stock association, incorporated or organized under the laws of the United States or of any State, is not void, or voidable, because the vendor, at the time of making such contract, is not the owner or possessor of the certificate, or certificates, or other evidence of debt, share or interest."

It has been urged that this statute "specifically legalizes stock gambling." As a matter of fact, however, the law would be precisely the same if that statute were repealed, for it is the *well-settled common law of this country, as established by the decisions of the Supreme Court of the United States and of the State courts*, that all contracts, other than mere wagering contracts, for the future purchase or sale of securities or commodities are valid, whether the vendor is, or is not, at the time of making such contract, the owner or possessor of the securities or commodities involved, in the absence of a statute making such contracts illegal. So far as any of these transactions are mere wagering transactions, they are illegal, and not enforceable, as the law now stands.

It has been suggested to us that there should be a requirement either by law or by rule of the Stock Exchange, that no one should sell any security without identifying it by number or otherwise. Such a rule would cause great practical difficulties in the case of securities not present in New York at the time when the owner desires to sell them, and would increase the labor and cost of doing business. But, even if this were not the effect, the plan contemplates a restriction upon short sales, which, for the reasons set forth above, seems to us undesirable. It is true that this identification plan exists in Eng-

land as to sales of bank shares (Leeman act of 1867); but it has proved a dead letter. It has also been used in times of apprehended panic upon the French Bourse, but opinions in regard to its effect there are conflicting. While some contend that it has been useful in preventing panics, others affirm that it has been used simply for the purpose of protecting bankers who were loaded down with certain securities which they were trying to distribute, and who, through political influence, procured the adoption of the rule for their special benefit.

52. *Puts, calls and straddles.*—There are several other ways in which a man may speculate in stocks, besides the methods just considered. The purchase and sale of "puts," "calls" and "straddles" are favorite devices used by certain classes of speculators. The purchase or sale of these privileges has been forbidden upon the floor of most of the stock exchanges, but is still permissible in the produce exchanges. The prohibition in the case of the stock exchanges does not prevent their use, for there are a number of firms in Wall Street who are willing to sell these privileges.

A "put" may be defined as an option which gives the buyer of the "put" the privilege of making the seller of the "put" take a certain amount of produce or securities at a stated price within a given time stated in the agreement.

A "call" on the other hand is the opposite of the "put." This privilege gives the buyer the right to call upon the other party for a certain amount of produce or securities at a fixed price within a specified time.

A "straddle" is a combination of a "put" and a "call." It gives the purchaser the privilege of either putting or calling the produce or securities at the named price within a given period.

These three privileges are used almost entirely in

speculative transactions. They are simply bets upon anticipated changes in the price of the security or product which is traded in. Let us suppose that a man believes that the price of a certain stock will fall owing to some circumstances which he feels reasonably certain will happen. He desires to profit by this decline in price. He therefore, seeks out someone and purchases a "put" by which he is given the privilege of delivering the stated number of shares of the stock within a given time at a price which is named. Now if his judgment proves to be correct and the price of the stock falls he can go into the open market and purchase the number of shares mentioned in the "put" at a price much below that at which the seller of the "put" has agreed to buy it. He will then take over the stock, demanding the fulfillment of the contract named in the "put" and will make the difference between the price at which he bought the stock, and the price at which he sold it under the "put"—less, of course, the commission on the purchase of the securities and the amount which he paid in order to purchase the privilege. As a matter of fact in most cases this transaction is never carried out, for a "put" is in reality a pure gamble and settlement is made by the payment of the difference in price to the lucky speculator.

A "call" is used largely by short sellers or bears who have sold something which they do not own. Suppose a man has sold a certain stock at seventy which he expects to be able to go into the market and buy later on at a smaller price, thereby realizing a profit. He desires to protect himself against a sudden rise or against a possible corner. He finds that he can buy a call for 72 which will give him the privilege. In case, for example, the stock goes to 74 he requires the seller of the

call to deliver it to him at 72. In such a case the loss to the buyer of the call is limited because he cannot be caught on the wrong side of the market, for more than the two points on his stock, plus, of course, the amount which he has to pay in order to secure the privilege. When used in such transactions the price which he pays for the call is largely an insurance premium which he pays in order to be protected against a heavy loss.

Calls are also used by those who believe that the price of securities will advance above the price named in the call. They do not care to invest in stock but purchase instead this privilege which gives them the right, in case their predictions are verified, of calling for delivery of the stock at a price which is lower than that then prevailing in the open market. This, of course, enables the speculator to make a profit.

A "straddle" is used by those who desire to be on both sides of the market at once. They believe that the price of the stock will not remain stationary because they find that, for example, there are powerful interests opposing each other—one to advance and the other to cause a decline in the stock. The speculator is not certain which will win or even that he is correct, but knowing that the value of the stock must move in one direction or the other, he desires to profit by it. He knows, too, that if he can purchase a straddle that it is immaterial which way the stock will move just so long as it moves sufficiently far in either direction for him to attain this end. He is like the gambler who hedges on his bet. The purchaser of the straddle buys the right to deliver stock at a price which is higher than the price then prevailing in the market or to call for it at any price which is below that at which the stock is then selling. If,

for example, he sold at 70 he may be able to purchase the right to buy the stock at 72 or call for it at 68.

Straddles can only be purchased when those who sell them expect a stagnant market in which the price of securities will not fluctuate sufficiently to force them to redeem the privileges which they sell. If the market fails to move beyond the limits named in the contract, the buyer is out of pocket the amount which he has paid for the privilege, while the seller of the privilege has the total sum which he has received as compensation for the risk which he has taken. The risk is, however, very great because the seller of the right gambled on the market's being stationary, which is very unlikely. The cost of the straddles is therefore usually heavy even when they can be purchased.

As compared with puts and calls there are many times when a straddle cannot be purchased at all. In fact, they are not used to any great extent. The prices paid for the privilege depends upon the following factors:

1. Upon the length of time during which the privilege is to run. If the time is long the risk of fluctuation is larger and the price greater.

2. Upon the difference between the prices named in the agreement and those then prevailing in the open market. The greater the difference in the prices, the less likely is the seller of the privilege to be called on to fulfill the contract.

3. Upon the condition of the market. When the market is wild the seller of the privilege is running a greater risk than when the market is steady.

4. In the case of securities the nature of the security must always be taken into consideration.

These privileges, as has been said, are used most ex-

tensively at the present time in the grain market. There is usually a regulation charge of perhaps $10 per thousand bushels of grain. This is varied frequently, however, to fit the occasion. But these privileges are falling into disuse because they are pure gambling, and the exchanges are coming to frown upon them more and more as time passes.

CHAPTER VIII

THE SCIENCE OF SPECULATION

53. *The degree to which speculation is scientific.*—The future is always more or less uncertain but in so far as future movement of stock market prices can be foreseen speculation is scientific. No system has ever been devised to foretell all fluctuations in prices and the fate of the stock speculator who believes his method to be infallible is likely to prove that of the gambler at Monte Carlo who endeavors by elaborate permutations to work out a system of beating the bank. Nevertheless the effort to foresee the future and make profit by so doing enters more or less into all business activities and it is capable of proof that the movement of stock prices is not so irregular as to be incapable of a certain amount of foresight provided a speculator has the proper mental equipment and knowledge.

54. *Great differences in the prices of securities.*—The changes which take place in the price of securities during the year or even within the hours of a business day, seem at first to be inexplicable. An examination of the variations shows that they do not occur regularly so that the prices of any six months may be compared with those of similar months in other years.

The variation in the price of some of the leading stocks in the years 1906 and 1907 furnishes a good illustration, although it is a somewhat extreme comparison owing to the unsettled conditions of the latter year.

	1906		1907	
	High	Low	High	Low
American Smelting Company	174	138½	155	56¼
Atlantic Coast Line	167¾	131⅛	133⅜	58
Baltimore & Ohio	125⅛	105¾	122	75⅜
Chicago, Milwaukee and St. Paul—common.	198⅞	135¼	157½	93½
Chicago and Northwestern	240	192	205	126
Consolidated Gas	181¾	130⅝	140¼	74
Great Northern preferred	348	275	189¾	107½
Illinois Central	184½	164	172	116
Missouri Pacific	106¾	136¼	92¾	44½
Pennsylvania Railroad	147½	122½	141⅜	103½
Reading	164	112	139⅛	70½

These stocks are picked at random, but they illustrate the general tendency during these years. Such wide differences in prices, however, are largely confined to stocks, at least in the case of high grade corporations. The prices of high grade bonds fluctuate much less from year to year. Their security is fully protected by the mortgages issued upon their property and the margin or surplus of earnings over the amount necessary to pay the interest on the company's debt is usually so great that no vicissitude in business exerts more than a small effect upon their price.

This sharp contrast between the fluctuation of the prices of stocks and bonds is usually urged as a powerful argument for the investment of savings in bonds rather than stocks. In spite of this, however, we find that even the best life insurance companies hold large amounts of stock among their investments. The Pennsylvania Railroad stock was for example, according to a compilation of a recent date held by eighty-eight life and fire insurance companies. This perhaps is the largest distribution which any stock enjoys among this class of investors. In spite of the high favor in which the securities of this company are held, due largely to the uniform prosperity which the corporation has enjoyed, the price of its stock fluctuated in 1903 between

the low and high extreme of 110¾ and 157⅜, and in 1907 between 103½ and 147½. In each of seven out of the last ten years this stock varied in value by at least twenty-two points, and in some years the variations exceeded this amount.

Another stock usually regarded as desirable among American securities is that of the New York Central and Hudson River Railroad. This stock was recently held by at least forty-three life and fire insurance companies. Within a period of six months in 1906 it dropped from 156 to 127 rising again in September to 146 and finally falling in November to 126. These fluctuations are not exceptional. They can be duplicated on every hand. Illinois Central; Chicago and Northwestern; Chicago, Milwaukee and St. Paul and other leading railroads, all of which are held in high favor and are owned largely by life insurance companies, have fluctuated as much as fifty dollars within a single year.

These variations in the prices of securities not only apply to individual instances but show up in any computation which may be made, averaging the values of a large number of securities. The *Wall Street Journal,* a leading financial daily of New York, publishes every day the average prices of twenty representative railway stocks and twelve representative industrial stocks. The results of this computation for the years 1905 and 1906, which were generally regarded as normal years will show how great is the average change in values. The record for 1907 and 1908 would be even more startling since these were years of depression and violent changes in values. Our comparison, therefore, more nearly represents normal conditions.

	Twelve Industrials.		Twenty Railways.	
Declined	to May 8, 1905.....	74.52	May 8, 1905.....	117.35
Rallied	to May 12, 1905.....	78.05	May 12, 1905.....	120.02
Declined	to May 22, 1905.....	71.37	May 22, 1905.....	114.52
Rallied	to August 23, 1905.....	82.82	August 29, 1905.....	132.19
Declined	to September 7, 1905....	78.60	September 7, 1905.....	127.37
Rallied	to November 1, 1905....	84.14	October 23, 1905.....	132.65
Declined	to November 13, 1905...	80.83	November 13, 1905.....	127.91
Rallied	to January 19, 1906....	103.00	January 22, 1906.....	138.36
Declined	to March 5, 1906.....	92.90	March 5, 1906.....	128.54
Rallied	to March 13, 1906.....	96.96	March 13, 1906.....	131.46
Declined	to March 19, 1906.....	92.05	March 19, 1906.....	128.96
Rallied	to April 3, 1906.....	98.19	April 2, 1906.....	133.13
Declined	to April 10, 1906.....	95.05	April 10, 1906.....	130.07
Rallied	to April 14, 1906.....	97.02	April 16, 1906.....	132.66
Declined	to May 3, 1906.....	86.45	May 3, 1906.....	120.30
Rallied	to June 4, 1906.....	95.15	June 11, 1906.....	131.05
Declined	to July 13, 1906.....	85.18	July 2, 1906.....	121.76
Rallied	to October 9, 1906.....	96.75	September 17, 1906.....	137.84
Closed	November 10, 1906...	93.32	November 10, 1906.....	132.24

55. *Inequalities in the prices of securities with the same yield.*—The most natural explanation which would occur to one for this difference in the price of securities is that their earning power must be unequal. This, of course, is true to a considerable extent. If the prices of securities really represent their value it would seem that all of the stocks which have a satisfactory record of paying, for example, a four per cent dividend, ought to sell at practically the same price, and that those paying five per cent, for a sufficient period, should sell at a higher price. This, however, is not the case, as is shown by the following computation, giving yearly dividends and price on November 19, 1906. This year has again been selected because it was one when normal conditions prevailed:

PER CENT STOCKS.

American Smelt	157
American Ice	89
American Sugar	136
Chicago and North Western	206
Chicago, Milwaukee & St. Paul	185
Leather Preferred	102
Illinois Central	173
Manhattan	145
Republic Iron and Steel Preferred	99
United States Steel	105

6 PER CENT STOCKS.

American Tobacco preferred	97½
Atlantic Coastline	140
Baltimore & Ohio	120
Canadian Pacific	182
Louisville and Nashville	147

5 PER CENT STOCKS.

Atchison	102
American Locomotive	75
Missouri Pacific	95
Norfolk and Western	96
New York Central	132
Southern Pacific	96

4 PER CENT STOCKS.

National Lead	76
Reading	150
Tennessee Coal and Iron	158

These few illustrations, taken at random, are sufficient to show the enormous differences which existed between the prices of securities as quoted on the ticker tape from time to time. The importance of this wide variation in prices from the standpoint of our study of speculation arises from the fact that the greatest activity prevails during periods when the fluctuations in prices are occurring, while the market is, as a rule, stagnant during periods when prices are almost stationary. It is not necessary that prices shall fluctuate violently or that the movement shall be confined to a short space of time in order to make an active market, for some of the periods of the largest volume of trading have occurred at times when the market has experienced either a steady and gradual rise, or a corresponding decline.

56. *Effect of manipulation and other artificial factors.*—While variation in price is the main incentive to speculation, the course of prices in turn depends to quite an extent upon the volume of speculative trading, a part of which many persons believe to be manipulative or artificial in some sense. Just how manipulation is effected was related in a previous chapter. There have

been years when the total sales of listed and unlisted shares on the New York Stock Exchange represented a par value of more than twenty-five billions of dollars and there are not a few observers who believe this activity has been in large part artificial. Mr. Sereno S. Pratt, secretary of the New York Chamber of Commerce, in his "Work of Wall Street" has presented interesting tabulations showing the great volume of trading in some of the leading securities. He concludes that a sufficient number of shares of stock of the Chicago, Milwaukee and St. Paul railroad company has been sold during a single year to equal twenty-three and three-fourths times the total outstanding stock issue of this corporation. Some of the other results of his investigations of the volume of a single year's trading in our leading securities are as follows:

Union Pacific sold	21¼ times over.
American Sugar sold	18 times over.
Rock Island sold	13½ times over.
Manhattan sold	13¾ times over.
Wabash (preferred)	12½ times over.
Atchison sold	11⅞ times over.
Brooklyn sold	11⅞ times over.
Michigan sold	10 times over.

Mr. Pratt was formerly editor of the *Wall Street Journal,* but another former editor of the same paper, Mr. Thomas F. Woodlock, who is now a broker, declares there is much less manipulation than most people suppose, and as an independent factor in price making it may almost be neglected. "It is at this time," he says, "an auxiliary factor to a small extent." A large part of the transactions on the Stock Exchange, there is no doubt, are of a gambling nature, but this is another matter. How much is manipulative or in some sense artificial is a subject on which authorities disagree.

57. *Current news and concentration of ownership.*—

One of the most important influences affecting prices of speculative securities is the current news contained in the telegraph, the telephone, the news bureau slips and the financial dailies. Every publication contains each day a large amount of information which will affect the price of almost all classes of securities, while at the same time the reported event may have no effect whatever upon the real value of the property so far as earnings are concerned. Wall Street is quick to discount any unfavorable condition. A suggestion that the earning power of a company is being injured will be sufficient to cause a decline in the price of its stock. It frequently happens that these fears prove groundless. Another important factor is the market supply of the stock available for speculative purposes. This matter has already been briefly discussed. Certain securities are held to a very large extent by insurance companies and other financial institutions or by private investors, thereby leaving a relatively small amount to be traded in. Under such circumstances where the supply of stock is limited, any considerable movement either of buying or selling will have an unnatural effect upon the security because of the smallness of the market.

58. *Dow's classification of price movements.*—Having seen how prices vary and having noted a few of the multitude of outside influences which bring about this condition, we may now discuss the question of whether prices are ultimately determined by intrinsic values. Prices often move in an opposite direction from that expected from a knowledge of intrinsic values because of all manner of other influences, but experience teaches that sooner or later prices tend to approximate real, intrinsic values. One of the best known classifications of price movements is that of Charles H.

Dow, one of the founders of the *Wall Street Journal* and himself a very successful speculator. This classification is based on the principle, generally accepted as sound, that in the long run prices are controlled by the intrinsic value of the security and that the variations are the result of extraneous influences. Dow's Classification is grouped under three heads:

1. The "primary movement" governed by intrinsic values, which is the most powerful of the three.
2. The "secondary movement" or the "swing"—governed by manipulation, by current reports and by the market machinery.
3. The "tertiary movement"—the daily fluctuations in the market which are caused by the most trifling circumstances. It may be a mere rumor, the operations of room traders or some other influence.

The "swing" may continue for weeks or even months. Prices of securities may be artificially inflated or depressed as the result of the operations of a powerful syndicate or clique which have created unnatural conditions in carrying out a policy for which they have banded together.

Mr. Dow claims that the primary movement, or that based on value, lasts the longest and is ultimately the controlling factor in speculation as it is in investment. The only speculators who have had any long continued success in the market are those who follow the primary movement. They disregard daily fluctuations and carry their securities with a very heavy margin, or pay for them outright, waiting for the real value of the property to be reflected in the price of the security. Those who gamble upon the daily fluctuations or who stake their hopes upon the success of manipulative efforts sooner or later come to grief.

The primary movement in either direction usually covers a considerable period of time, often requiring some years to effect its consummation. A careful study of the variation in the prices of securities over a period

of years shows that at more or less regular intervals, averaging perhaps four or five years, there is a reversal in the prices of securities. Starting from a low point, securities will advance with some degree of steadiness to a high point and will then decline again with more or less suddenness. During the years while this is happening there will, of course, be many retrogressions, nevertheless the general tendency is unmistakably apparent. These more or less regular intervals are spoken of as "cycles" of advancing or declining prices.

CHAPTER IX

THE SCIENCE OF SPECULATION — *Continued*

59. *Woodlock's analysis of price movements.*—There is no more acute student of speculative movements than Thomas F. Woodlock, who, besides having been an associate of Charles H. Dow, has also for several years been an active broker on the floor of the New York Stock Exchange and prior to his editorial work on the *Wall Street Journal* was a broker on the London Stock Exchange. In a general way Mr. Woodlock follows the principles laid down by Dow but analyzes the subject much more closely. In a series of lectures before the class in Investment and Speculation in the School of Commerce, Accounts and Finance of New York University he discussed the subject of stock market prices in substance as follows:

The price of a security at a given time is the equation (so to speak) of the desires or necessities of buyer and seller resulting from free bargaining in the open market, and prices move according as these desires and necessities change from time to time.

Certain *á priori* principles undoubtedly apply in the first instance; examination of the facts will supply us with others by use of the inductive method.

We may deal first with the *á priori* principles. These deal with two distinct things—first, the matter of speculation, and second, with the speculators themselves.

In modern times the chief worth of capital to its owner is in its power to fortify or produce income or profit. Remember-

ing the nature of a stock, therefore, it is evident that the two really fundamental factors in determining its price over a period of time will be the income-producing capacity of the stock and the income-producing capacity of capital represented by other forms of investment. These other forms are best represented by the general interest rates for long-time loans and commercial paper.

In other words, a rise in general interest rates tends to cause a fall in prices of stocks, and vice versa.

Likewise, an increase in the income-producing capacity of a stock tends to cause a rise in the price of that stock, and vice versa.

If for the purpose of this discussion we call this general interest rate the "value" of capital and the income-producing capacity of a security the "value" of that security, we can state it as a fundamental principle of price movement that "values make prices" or tend to make them over a period of time long enough to allow of elimination of effect of temporary factors.

Consequently, to the extent that coming changes in the value of either *money* or stock can be foreseen, the general tendency of prices can be foreseen. Before passing to other considerations we may note certain facts under this head:

The income-producing capacity of a stock may be

a. Wholly actual or limited.

b. Partly actual and partly potential.

c. Wholly potential.

Further let it be noted that in the case of a security, limited or unlimited, there may be either a *plus* or a *minus* potentiality. In the case of a limited security, this potentiality is the measure of security of yields; in other cases it is the measure of likelihood of increased or decreased yield.

Thanks to the wide extension of "publicity" and the great diffusing of expert knowledge regarding corporation accounts (especially railroads), a considerable degree of knowledge is attainable regarding security values, and the changes likely to occur therein.

Coming changes of importance in money "values" while probably not so easy to foresee can nevertheless be foreseen in accordance with general economic principles, and in a general way it may be said that foresight on both these points is a reasonably well-grounded possibility. Consequently we may safely say that speculation which is based on study of these two important factors is reasonably scientific.

A study of the actual movements of prices over a period of years will show that the general price cause is ultimately determined by these factors. We take for purposes of illustration the record of stock price-averages as kept by the *Wall Street Journal* for the ten years ending 1908:

60. *Price movements for the ten years.*—

Year.	Net Adv.	Net Decl.	Total Advs.	Total Decls.
1899	——	6.06	20.04	26.10
1900	18.99	——	45.82	26.83
1901	12.23	——	72.32	60.09
1902	11.20	——	52.02	40.82
1903	——	25.67	32.32	57.99
1904	17.92	——	37.61	19.69
1905	24.83	——	49.70	24.87
1906	——	6.49	46.28	52.77
1907	——	45.34	56.18	101.52
1908	34.32	——	67.33	33.01
Total	35.93		479.62	443.69

First, let us observe the effects of the two fundamental factors already described, viz., the "values" of money and of stocks. As is well known, the period 1899 to 1907 was one of increasing stock values in that railroad earnings increased largely and dividends were quite generally increased. To this must be ascribed the net advances in prices in 1900, 1901, 1902, 1904, 1905.

In 1903 there was a period of sharp increase in money values which caused the large decline in stock prices of that year. In 1906 and 1907 the great world-crisis occurred. In 1908 money values declined to the lowest level recorded in the ten-year period, and stock prices rose, although stock values were not increasing in that year, but rather diminishing.

Broadly speaking, stock values governed the movement of

prices in 1900, 1901, 1902, 1904, and 1905. In 1903, 1907 and 1908 money values governed and in 1906, it was a drawn battle.

But the records show much more than the mere operation of these two factors. For, while in the ten years the market made a net advance of about 36 points, it made no less than sixty-five clearly marked up and down movements, the "up" movements totaling no less than 480 points, and the "down" movements totaling no less than 444 points. Each "up" movement averaged about 7¼ points move in 33 days and each "down" movement averaged about 6⅞ points in 22 days.

Note that in the years of advancing prices, 1900, 1901 and 1902—which resulted in a net gain of over 42 points—there were total advances of 170 points and total declines of 128 points. Note also that in 1904 and 1905, in which the net advances were almost 43 points, there were total advances of about 87 points and total declines of 128 points. Note likewise in 1908 there were total advances of 67 points and total declines of 33 points.

Further, note that in 1903, which was a year of declining prices, there were total declines of 58 points and total advances of 32 points; also that in 1907, another year of decline, there were total declines of 101 points and total advances of 56 points. And in 1906, which was a year of small net changes, there were total advances of 46 points and total declines of 52 points.

Then it is apparent that in every year there occurred many movements of prices in a direction contrary to that of the main trend produced by the operation of the fundamental factors described—many declines in years of net advances and many advances in years of net decline. To what factors must we attribute these changes? And what laws govern them?

It is very clear that these changes are of enormous importance to the speculator, seeing that they loom so large in proportion to his capital, as we have previously pointed out. Consideration of the permanent or fundamental factors will not help him much with so many cross currents and eddies to be

faced. He must clearly give his attention to the things that produce these changes.

61. *Woodlock's theory of governing factors.*—Remembering that the speculator is always a borrower of either money or stock—usually stock—we can argue *á priori* that difficulty in borrowing money will cause speculators to sell the stock, and difficulty in borrowing stock will cause speculators to buy stock. This principle is complementary to the principle "values make prices," but it concerns the speculator rather than the matter of speculation. High rates for call money mean temporary low prices for stocks as a rule. Sometimes this factor is of importance. We can trace its operation in several of the years under review.

But another principle is disclosed of somewhat similar character which is more frequently operative than this. The speculator who has bought may sell in order to close his transactions. When a large number of speculators have bought "long" the market is threatened with a large amount of sales which must sooner or later be made—and *vice versa* when speculators are generally short purchases must eventually be made to "cover."

The former condition is called an "overbought" market and the latter an "oversold" market. Both constitute a species of unstable equilibrium which is easily disturbed and always is disturbed sooner or later. It is to this development that we must ascribe many of the sharp movements downward in a period of advancing prices and the sharp rallies in "bear" markets.

Experience shows that the price movement in either direction is constantly overrunning itself in this way and reacting, and it is an axiom in Wall Street that reaction is more or less proportioned to the action that it follows. Many people claim that on a fair average reaction will be somewhat about half the action previous.

Naturally no rule of this kind holds at all times, for *accidents* must be taken into account (such as the Northern Pacific corner, McKinley's assassination, the corn crop failure, 1901, the Northern Securities suit in 1903, and the San Francisco fire 1906), which disturb the mere ebb and flow of speculation.

The eddies in the main current of prices may be considered on the whole the result of alternation of "overbought" and "oversold" conditions of speculation aiding or opposing the particular fundamental movement due to underlying values as the case may be. It may be noted that the eddies—or movements contrary to the main movement—as the declines in 1900, 1901 and 1902, the rallies in 1903, the declines in 1904 and 1905, the rallies in 1907 and the decline in 1908—were all of much shorter duration than the contrary movements with the prevailing tide.

This fact often furnishes signs of a movement's culmination as when, after a period of advancing prices a slow decline sets in followed by a sharp rally, or when after a long decline a slow advance sets in followed by a sharp break.

If we gather up such principles as we have been able to find, we get the following:

A. The general trend or tide of prices is determined by fundamental values.

B. This tide is constantly interrupted by eddies, which are the result of conditions growing out of speculation and accidents.

C. The eddies in the tide are usually swifter than the movement with the tide.

D. The eddies usually bear some suitable proportion to the movement that has preceded them.

E. As a general rule declines are accomplished more rapidly than advances. (Because most speculators operate as "bulls.")

It is evident that while the chapter of accidents is never done, the movement of prices is by no means so irregular as to be incapable of a certain amount of foresight and that speculators who bear the above principles in mind and operate on them cannot be accused of being mere gamblers.

In other words, stock speculation is not of its nature wholly unscientific.

62. *Further history of stock market prices.*—We have seen how the authorities agree on one point, namely,

that primary movements in the stock market take place at intervals of a number of years. Thus for example, we had the bull movement from 1877 to 1881 which terminated with the assassination of President Garfield. Then followed the bear movement from 1881 to 1885 which culminated in the panic of 1884; then followed the bull movement from 1885 to 1889 which was interrupted by the Baring panic of 1890 and was again resumed in 1891 by the stimulus of a large harvest that year as well as by the currency inflation brought about by the Sherman Silver Bill. This movement was brought to an end in 1893 by the great panic of that year. A period of depression then followed which lasted until 1897 when the great "McKinley boom" began, due to the inflation of currency as a result of the large increase in the production of gold and the unusually high prices of products which followed. This condition of rising prices continued with more or less regularity until 1907, being interrupted in 1901, 1903 and 1905 by temporary depressions largely brought about by excesses in the stock market.

The period from 1897 to 1907 affords an illustration of the rule that in the long run, prices although they may fluctuate ever so much, will tend to approximate the real value of the property represented by these securities. Mr. Pratt in his book entitled "The Work of Wall Street" picturesquely describes the course of the prices of securities during such a period as follows:

A bicycle rider starts over a new road. The actual distance is twenty miles, but his cyclometer at the end registers thirty, due to the fact that he has not travelled in a straight line, but has gone from one side to the other in an endless succession of curves in order to avoid teams and ruts and perhaps because he has been maliciously misdirected. In a like manner prices

travel through an endless succession of daily curves or fluctuations and sometimes miss the road altogether, and, misled by manipulation, travel a long distance astray, but in the end they arrive at the true destination-value.

63. *Intrinsic values govern prices over long periods.* —Various writers have made compilations showing that during the period 1897 to 1902, the lowest prices of twenty railway stocks were less than forty-two, while the highest average price rose to nearly 118 on May 1, 1901. The difference between the highest and lowest for the period was seventy-six, representing an increase of one hundred and eighty per cent. Mr. Pratt uses this as an illustration in substantiation of his principle that this upward movement of stock corresponds very closely to every possible test of value. He points out, for example, that during this same period the banks increased their clearings by 175 per cent. Furthermore, the value of the railroads, as represented by their surplus earnings available for dividends after all fixed charges and operating expenses had been paid, increased about as fast as the increase in price. According to the reports of the Interstate Commerce Commission the net earnings increased from $492 to $1,190 per mile, or approximately one hundred and forty per cent, while the dividends actually paid out increased from $484 to $725 per mile. This comparison shows that the increase in surplus earnings available for dividends is not so much less than the increase in price as reflected on the New York Stock Exchange.

These comparisons however, would perhaps have been more accurate had the average price been ascertained from some other date than for May 1, 1901. The existence of circumstances preceding the corner of that year gave an undue inflation to the entire market.

From this close correspondence of the prices of securities with the earning power of the properties it must not be inferred that these two movements occurred simultaneously or in unison. A closer examination will show that at various times through the period there was a wide divergence between the prices of the securities and what one would expect to be their value from the condition of the properties. In the year 1903 and again in 1905 the divergence was so pronounced as to cause widespread attention to the vagaries in the prices on our exchanges. The year 1903 may be characterized as the culmination of that long period of prosperity which had its inception in the sound money triumph in the presidential election of 1896. It was a year of great prosperity for this nation if we may judge by the three largest industries. The iron and steel industry was never so busy, the railway industry was burdened with all the freight that it could handle, while the agricultural interests of the country were favored by enormous crops. If these three industries are taken as a standard, and they usually are, the prosperity of this nation was such as to stand almost without a parallel. We might expect, therefore, that the prices for securities representing large industrial concerns would be quoted at a very high level. Yet this was a year which was characterized by conditions in the stock market approximating a panic. The shrinkage in the value of stocks was so pronounced and so continuous that it may be said to have had few, if any, parallels in stock exchange history. The extent of the decline may be understood by the quotations of a few high grade stocks. Pennsylvania dropped in January from 127⅝ to 110¾ in November. It again rose to 140 in 1904. New York Central fell from 156 in January

to 112⅝ in July. It again rose to 145 in 1904. Chicago and Northwestern declined from 224½ to 153 during the year but again rose to 214. Union Pacific fell from 103⅝ to 65¾ but again rose to 117 in 1904.

The same story of a stock exchange panic in the midst of a most prosperous year is illustrated by the experience of 1905. This year presents a record of even greater prosperity than the year 1903. It was a period of confidence, large crops and ample business and all the leading influences contributed to make it a period of unexampled activity. The railway industry, the iron and steel industry were all favored to an exceptional degree. Money rates continued reasonably low until the latter part of September. In fact, the activity and tremendous rise in prices which marked the year 1904 were hardly a circumstance to the extraordinary buoyancy and unrestricted optimism that developed in 1905. As the Commercial and Financial Chronicle stated:

> Unfavorable developments were completely ignored and favorable features long seemed to count, yet this year was marked by some very severe breaks subject, however, to almost immediate recovery. Thus in January there were rumors of an early settlement between the Harriman and Hill factions. There were also rumors concerning a combination of the Union Pacific, Standard Oil, and Vanderbilt interests. Largely because of these rumors, and other circumstances, the price of Great Northern jumped from 236 to 254. Northern securities rose from 113 to 123. As a matter of fact nothing became of all these rumors except that there were some changes on the directorates of these corporations which made for greater uniformity of management. Yet in spite of these conditions the last few days of the year showed a tremendous decline in the value of almost the whole list of securities, and the market on the closing day of the year was practically on the verge of a panic. Great

Northern dropped from 335 to 270; Union Pacific from 137 to 118; New York Central from 163 to 141; Milwaukee and St. Paul from 187 to 170; Ontario and Western from 63 to 49 and Pennsylvania Railroad from 144 to 137.

This decline in the value of these securities while their earning power continued undiminished and the condition of their business was as favorable as could be desired, will serve as an illustration of the effect of extraneous forces upon the security market.

64. *Stock market factors of 1903, 1904, 1905.*—Let us look into the stock market history of each of these years and ascertain the nature of these forces which had such a powerful effect. In the year 1903, for example, three disturbing factors of great importance were responsible for the sharp decline. In the first place the Anthracite Strike Commission had not yet announced its decision, and the coal roads felt the uncertainty which surrounded a very important portion of their business. The second unfavorable influence was the general crusade against the trusts—the large number of suits brought to dissolve the big industrial combinations, the policy of President Roosevelt for the prevention of further industrial combinations, and the dissolution of those already in existence wherever they were antagonistic to the public welfare. The entire speculative structure reflected the uncertainty which existed.

The third factor was the doubt which surrounded the Northern Securities Case which still remained undecided. It was generally recognized that the question involved had a wider significance than was apparent upon the record. It was hard to predict the influence which the decision of the court would have upon a large number of other railroads whose affairs bore a striking

similarity to those of the case at issue. These factors had the greatest influence in making for the decline in security values which we have already considered.

The influences which were responsible for the panic of 1905 were of a different nature. The first was the disappointment which was felt because of the ill success which attended the efforts to settle the controversy between the Harriman and Hill factions. The continuance of unfriendly relations disturbed the entire railroad situation as it had threatened at one time to wreck the speculative structure. This apprehension was aggravated by the collapse of the attempted wheat corner which soon followed and by the Bigelow bank defalcation which caused widespread uneasiness in the minds of a timid but nevertheless important portion of the population as to the soundness of the national banks. A force, however, which was more important than either of these was the influence which was exerted by the startling disclosures in the investigations of the life insurance companies. The connection of these corporations with some of the picturesque but unsavory incidents of recent Wall Street history caused uneasiness in powerful circles. In addition it was felt that the complete reorganization of the insurance companies was inevitable, that restrictive legislation would follow which would prevent them from participating to the same degree in underwriting operations, and that it was in the range of possibility that they might be forced to sell large quantities of securities which they had in their possession, which were also held to a large extent by speculative interests.

This brief review of the history of two recent years serves to show the prominent influence which the outside forces exert in determining the prices prevailing

upon our exchanges. It will be seen that the speculator must make a careful study of a large number of conditions that are only remotely connected with the earning power of the company, in order to be able to understand the fluctuations which occur in the prices of securities. It has been aptly said that there is hardly an event happening in the world which does not have some effect upon the prices of securities.

CHAPTER X

THE DANGERS OF SPECULATION

65. *The main problem to be solved.*—Where speculation is carried on by persons of means, experience and knowledge it constitutes a profession as legitimate and often as successful as any. Gambling of necessity creeps into speculation and where persons not properly qualified engage in this occupation their operations usually differ but little from gambling and they are almost certain losers. On this general point the situation has been well summed up by the Hughes Committee:

> The rules of all the exchanges forbid gambling as defined by this opinion; but they make so easy a technical delivery of the property contracted for, that the practical effect of much speculation, in point of form legitimate, is not greatly different from that of gambling. Contracts to buy may be privately offset by contracts to sell. The offsetting may be done, in a systematic way, by clearing houses, or by "ring settlements." Where deliveries are actually made, property may be temporarily borrowed for the purpose. In these ways, speculation which has the legal traits of legitimate dealing may go on almost as freely as mere wagering, and may have most of the pecuniary and immoral effects of gambling on a large scale.
>
> A real distinction exists between speculation which is carried on by persons of means and experience, and based on an intelligent forecast, and that which is carried on by persons without these qualifications. The former is closely connected with regular business. While not unaccompanied by waste and loss, this speculation accomplishes an amount of good which offsets much of its cost. The latter does but a small amount of good and an

almost incalculable amount of evil. In its nature it is in the same class with gambling upon the race-track or at the roulette table, but is practised on a vastly larger scale. Its ramifications extend to all parts of the country. It involves a practical certainty of loss to those who engage in it. A continuous stream of wealth, taken from the actual capital of innumerable persons of relatively small means, swells the income of brokers and operators dependent on this class of business; and in so far as it is consumed like most income, it represents a waste of capital. The total amount of this waste is rudely indicated by the obvious cost of the vast mechanism of brokerage and by manipulators' gains, both of which it is a large constituent element. But for a continuous influx of new customers, replacing those whose losses force them out of the "street," this costly mechanism of speculation could not be maintained on anything like its present scale.

The problem, wherever speculation is strongly rooted, is to eliminate that which is wasteful and morally destructive, while retaining and allowing free play to that which is beneficial. The difficulty in the solution of the problem lies in the practical impossibility of distinguishing what is virtually gambling from legitimate speculation. The most fruitful policy will be found in measures which will lessen speculation by persons not qualified to engage in it. In carrying out such a policy exchanges can accomplish more than legislatures.

66. *Evils of small margins.*—We have seen that only by following the primary movements in prices can one hope to be successful in the long run. One cannot always be sure of the exact duration of long price movements but there are many facts concerning them which are ascertainable. When we attempt, however, to forecast day to day fluctuations the difficulty is insurmountable and the penalty of a mistake is usually a call from the broker for larger margins. The average speculator operates with capital but a small part of

which is his own and as the broker has to borrow the remainder from the bank, as we have seen in a previous chapter, or supply it himself, he naturally calls upon the customer for more capital when prices go against the transaction. On this subject the Hughes Committee has recommended that customers be required to furnish not less than 20% of the capital employed rather than 10% as now ordinarily demanded. The report of the committee says:

> Purchasing securities on margin is as legitimate a transaction as a purchase of any other property in which part payment is deferred. We therefore see no reason whatsoever for recommending the radical change suggested, that margin trading be prohibited.
>
> Two practices are prolific of losses, namely, buying active securities on small margins and buying unsound securities, paying for them in full. The losses in the former case are due to the quick turns in the market, to which active stocks are subject; these exhaust the margins and call for more money than the purchasers can supply. The losses in the latter case are largely due to misrepresentations of interested parties and unscrupulous manipulations.
>
> In so far as losses are due to insufficient margins, they would be materially reduced if the customary percentage of margins were increased. The amount of margin which a broker requires from a speculative buyer of stocks depends, in each case, on the credit of the buyer; and the amount of credit which one person may extend to another is a dangerous subject on which to legislate. Upon the other hand, a rule made by the Exchange could safely deal with the prevalent rate of margins required from customers. In preference, therefore, to recommending legislation, we urge upon all brokers to discourage speculation upon small margins and upon the Exchange to use its influence, and, if necessary, its power, to prevent members from soliciting and generally accepting business on a less margin than 20 per cent.

"Pyramiding," which is the use of paper profits in stock transactions as a margin for further commitments, should be discouraged. The practice tends to produce more extreme fluctuations and more rapid wiping out of margins. If the stock brokers and the banks would make it a rule to value securities for the purpose of margin or collateral, not at the current price of the moment, but at the average price of, say, the previous two or three months (provided that such average price were not higher than the price of the moment), the dangers of pyramiding would be largely prevented.

67. *Obstacles to successful speculation.*—Mr. Woodlock believes all the mistakes and losses which speculators make may be traced to cupidity and ignorance. In one of his series of lectures at the New York University School of Commerce he said:

More or less continuous observation of speculation in stocks over a period of more than twenty years, warrants the assertion that speculators make about the same kinds of mistakes in about the same kind of way, which is the reason why the vast majority lose money.

These mistakes are mainly the product of two things: first, *cupidity*, second, *ignorance*.

The word cupidity is used in a restricted sense to mean the inordinate desire of gain without work. Men work at their appointed tasks in life with the desire of gain therefrom, but their desire is, so to speak, tempered by recognition of the necessity for work; furthermore, work is done with knowledge. Speculation is for the most part regarded as an easy way of getting money without work. This view of it, coupled with ignorance of the laws that govern, is the root of trouble for speculators.

The kinds of mistakes made most generally by speculators may be classified under a few distinctive heads and by discussing them we shall throw some light on the principles already discussed.

We may enumerate the following classes of mistakes most commonly made:

1. Failure to properly reckon chances.
2. Overtrading as to amount.
3. Trading too often.
4. Inertia in a losing position.
5. Overconfidence.

68. *Failure properly to reckon chances.*—Many people think that as the market can only move up or down, the chances of profit or loss are even for the speculator. This view is fallacious because it omits to take account of the handicap of commissions and interest against the speculator and because there is an inherent temptation to the speculator to do the wrong thing.

The speculator is subject to a total commission of ¼ per cent on his operations—⅛ each way—which the broker is obliged to charge. Besides this he must buy at the offered prices and sell at the bid price which are usually ⅛ apart, making a total of ⅜ on his operations.

Furthermore, he is subject to interest charge on money borrowed, and as stocks are always quoted *flat* (without accrued interest or dividends), this charge is apt to be a dead loss on most of his speculations.

It is clear from this that if a speculator is making his operations on the basis of taking 1 per cent profits and cutting 1 per cent losses (quite apart from interest considerations) the market must move 1⅜ in his favor before he can make 1 per cent net profit, whereas it need only move ⅝ per cent against him to make his loss 1 per cent net. This is equivalent to odds of 11 to 5 against him. On a basis of loss and profit of 2 per cent the odds are 19 to 13; on the basis of 3 per cent the odds are 27 to 21 against, and so on without reckoning interest.

On any basis of such profits and losses this is a heavy handicap against the speculator. Supposing him to guess the character of the market movement correctly half of the time, he must always have a larger average movement against him than the average movement in his favor.

Again, as we have seen previously, a "bull" is one who has bought and hopes to sell out at a profit. "Bullish" sentiment increases as the number of "bulls" increases, and is never so great as when the number of "bulls" is largest, i. e., when the market is most overbought. In other words, the temptation to buy is never so strong as when prices are at the top. And *vice versa.*

Financial history shows clearly that the market is always overbought after a long advance, and always oversold after a long decline, just because of this temptation. The records of 1902, 1904, 1906, and 1908 are eloquent on this point. Probably for the first time in the history of the Steel market there was a public "short interest" in 1908.

69. *Overtrading as to amount.*—Next is the mistake of "overtrading" which means assuming risks out of proportion to capital at command. This is very common. It arises first from the cupidity of the speculator who usually expects to double his capital quickly, and second from the general impression that capital should be used on a basis of 10 per cent margin. The record of prices previously shown clearly indicates that this is a very small margin on which to operate.

It is fair to say that the speculator who will use $1,000 capital to trade in 20 or 25 shares at a time, will fare better in the long run than he who uses it to trade in 100 shares at a time. The reason is that he will not be so often compelled to be an involuntary seller or buyer at the wrong time, either because his margin is exhausted or because the magnitude of his losses frightens him. The first unexpected incident will wipe out the 10 per cent margin speculator, whereas the other type described will be much more likely to survive.

It is a common saying in Wall Street that the speculator who aims only at making a large annual interest on his capital will double his capital ultimately, while the speculator who aims at doubling his capital quickly will almost certainly lose it, and there is much truth in the saying.

The next kind of mistake commonly made is that of trading too often. It arises as the rest do from cupidity and from ignorance of the fact that Wall Street is the only place where

a lost opportunity costs nothing. The effort to constantly catch the fluctuations inevitably degenerates into reckless and unanalyzing trading with the natural result. One of the earliest lessons that a speculator should learn is that it often pays to sacrifice apparent opportunity for the sake of safety.

Trading too often, moreover, naturally increases the burden of commissions and interest.

The normal condition of the scientific speculator should be one of inertia. He should be drawn into the market only by a favorable combination of circumstances and he should be out of it during the rest of the time. He is always sure of his opportunity sooner or later as a result of the mistakes of others. The tendency to trade constantly, however, is very strong and the mistake of trading too often is perhaps the most common of all mistakes.

70. *Inertia in a losing position.*—Next is the mistake of inertia in a losing position—which is exemplified in the tendency on the part of many speculators to take quick and small profits while allowing losses to grow.

The maxim "Cut your losses—let your profits run," is as old as speculation itself, but probably not one per cent of speculators have the courage to follow it. To accept a loss in cold blood requires the doing of violence to cupidity and the other instincts. Human nature is always hopeful until it is alarmed; the speculator should be always suspicious and quick to take alarm when the market goes against him. The policy of quick retreat may lead to abandonment of many a good position, but no one is ever broken by the money he has not made, but only by the money he has actually lost. A lost opportunity, as we have said, costs nothing.

The experience of most speculators is that they have made many small profits, but that their profits have been wiped out by a much smaller number of large losses. If speculators made it an iron rule that in no case would they allow a loss to run more than, say, two or three points, their chances of ultimate success would be increased very largely.

71. *Overconfidence.*—Lastly then is the mistake of overconfi-

dence, which is a direct compound of cupidity and ignorance and is frequently associated with the other mistakes that we have been discussing. The only courage that has any place in speculation is the courage that enables the intellect to govern the passions—and it has its root in knowledge.

The Wall Street adage is that "The tape tells the story," which means that the market does not lie. No matter what may be the speculator's knowledge or information, he cannot afford to disregard the market indications, for these may reflect the operation of factors that he does not know. He can never be sure that he knows all the factors.

Overconfidence leads the speculator to "average" a losing position which almost always leads to ultimate disaster. It leads him to pyramid a winning position so that he practically continues to wager "Double or Quits" with the market—until the market wins. Moderation in aims, and discretion that is the better part of valor, are both invaluable to the speculator—overconfidence is foe to both.

72. *Qualities necessary for success.*—From consideration of these mistakes and from what we have seen as to the nature of speculation and the principles of price movement, we may deduce certain principles necessary to successful speculation as a business.

First: The speculator must have a clear idea of what he is trying to do, i. e., he must have some clear notion of what he expects the market to do and how he expects to operate so as to profit thereby. This implies original knowledge of stock values, money values, and speculative market conditions.

Second: The more moderate his operations in proportion to his capital, the greater his prospect of ultimate success.

Third: He must have the strength of mind to resist the temptation of cupidity and the patience to wait until the chances favor him—sacrificing many apparent opportunities for the sake of safety.

Fourth: He must be more vigilant as to his losses than as to his profits, and inexorable in accepting a loss whenever he is in

serious doubt as to his position, never allowing a large loss to accumulate.

With such disposition, with continual application of mind and careful study of financial winds and waves, and with abundant capital, speculation can be scientifically carried on as a profession. But it is a most difficult profession to learn—and not an easy way of making money.

73. *Speculation cannot and should not be prohibited.*—It may appear that the dangers of speculation are sufficiently serious to warrant a stop being put to all speculation in stocks and commodities but experience proves that this is not the case. The experience of Germany is illuminating and is well described by the Hughes Committee:

In 1892 a commission was appointed by the German Government to investigate the methods of the Berlin Exchange. The regular business of this exchange embraced both securities and commodities; it was an open board where anybody by paying a small fee could trade either for his own account, or as a broker. The broker could make such charge as he pleased for his services, there being no fixed rate of commission. Settlements took place monthly. Margins were not always required. Under these circumstances many undesirable elements gained entrance to the Exchange and some glaring frauds resulted.

The commission was composed of government officials, merchants, bankers, manufacturers, professors of political economy, and journalists. It was in session one year and seven months. Its report was completed in November, 1893. Although there had been a widespread popular demand that all short-selling should be prohibited, the commission became satisfied that such a policy would be harmful to German trade and industry, and they so reported. They were willing, however, to prohibit speculation in industrial stocks. In general the report was conservative in tone.

The law of 1896.—The Reichstag, however, rejected the bill

recommended by the commission and in 1896 enacted a law much more drastic. The landowners, constituting the powerful Agrarian party, contended that short-selling lowered the price of agricultural products, and demanded that contracts on the Exchange for the future delivery of wheat and flour be prohibited. The Reichstag assented to this demand. It yielded also to demands for an abatement of stock speculation, and prohibited trading on the Exchange in industrial and mining shares for future delivery. It enacted also that every person desiring to carry on speculative transactions be required to enter his name in a public register, and that speculative trades by persons not so registered should be deemed gambling contracts and void. The object of the registry was to deter the small speculators from stock gambling and restrict speculation to men of capital and character.

The results were quite different from the intention of the legislators. Very few persons registered. Men of capital and character declined to advertise themselves as speculators. The small fry found no difficulty in evading the law. Foreign brokers, seeing a new field of activity opened to them in Germany, flocked to Berlin and established agencies for the purchase and sale of stocks in London, Paris, Amsterdam, and New York. Seventy such offices were opened in Berlin within one year after the law was passed, and did a flourishing business. German capital was thus transferred to foreign markets. The Berlin Exchange became insignificant and the financial standing of Germany as a whole was impaired.

This detrimental consequence, however, was not the most serious consequence of the new law. While bankers and brokers, in order to do any business at all, were required to register, their customers were not compelled to do so. Consequently the latter could speculate through different brokers on both sides of the market, pocketing their profits and welching on their losses as gambling contracts. Numerous cases of this kind arose, and in some the plea of wagering was entered by men who had previously borne a good reputation. They had yielded to the temptation which the new law held out to them.

Another consequence was to turn over to the large banks much of the business previously done by independent houses. Persons who desired to make speculative investments in home securities applied directly to the banks, depositing with them satisfactory security for the purchases. As the German banks were largely promoters of new enterprises, they could sell the securities to their depositors and finance the enterprises with the deposits. This was a profitable and safe business in good times, but attended by dangers in periods of stringency, since the claims of depositors were payable on demand. Here again the law worked grotesquely, since customers whose names were not on the public register could, if the speculation turned out badly, reclaim the collateral or the cash that they had deposited as security.

A partial repeal of the law of 1896 was brought about in 1908. By a law then passed the government may, in its discretion, authorize speculative transactions in industrial and mining securities of companies capitalized at not less than $5,000,000; the Stock Exchange Register was abolished; all persons whose names were in the "Handelsregister" (commercial directory), and all persons whose business was that of dealing in securities, were declared legally bound by contracts made by them on the Exchange. It provided that other persons were not legally bound by such contracts, but if such persons made deposits of cash or collateral security for speculative contracts, they could not reclaim them on the plea that the contract was illegal.

In so far as the Reichstag in 1896 had aimed to prevent small speculators from wasting their substance on the Exchange, it not only failed, but, as we have seen, it added a darker hue to evils previously existing.

Germany is now seeking to recover the legitimate business thrown away twelve years ago. She still prohibits short selling of grain and flour, although the effects of the prohibition have been quite different from those which its supporters anticipated. As there are no open markets for those products, and no continuous quotations, both buyers and sellers are at a disadvantage; prices are more fluctuating than they were before the passage of the law against short-selling.

CHAPTER XI

INVESTMENT SECURITIES

74. *Bonds and Stocks.*—Thus far we have dealt only with speculation and in the study of that subject our attention has naturally been directed toward the stocks of corporations for it is in stocks that speculation has been most highly developed. One may also invest in stocks; and bonds, of which practically no mention has yet been made, may be counters in the speculative game. Nevertheless bonds are more popular as investments than stocks and except where large capital is employed by professional operators or by dealers there is little speculation in bonds.

All investment securities are classed under the head of bonds or stocks. The short term note is merely a form of bond. The general nature of bonds, stocks and notes has been discussed in the volume on CORPORATION FINANCE but it will be well to repeat here the distinction between bond and stock. The bondholder is a creditor, one who lends money to a corporation. The stockholder is an owner of the property. The bondholder in return for his money receives a promise to pay. He is in the position of any other lender of money. He expects ultimately to receive his principal back and in the meantime a regular rate of interest. The stockholder, on the other hand, as an owner expects to receive all the profits which the corporation can reasonably disburse. As a result bonds usually vary but little in price, the return being fixed and

known. Stocks may vary as much as the profits of the corporation not only in price but in regard to the dividend paid. Consequently bonds are better suited to investment, being reasonably stable in price, whereas stocks, which fluctuate more extensively, lend themselves readily to speculative operations. In Chapter I it was pointed out that the investor desires safety of principal and interest more than he does increase in market value. Moreover the investor usually employs his own capital, while the speculator borrows part of his capital. He would not do so if there were not a chance of large profits and this is more likely to be the case where stocks are purchased. The bondholder is himself a lender. He frequently does borrow money on his bonds after they have been purchased, but it would be an anomaly if the major part of his operation were financed by others, which is the case in most stock purchases.

The output of bonds has increased much more rapidly in recent years than has the emission of stocks and there must be a reason for this in the relative demand for the two classes of securities. As wealth increases and as fewer persons, relatively speaking, are masters of their own business, we find a steadily increasing class of investors consisting of retired business men, many of whom have sold out to large corporations, trust estates, savings banks, women and persons of leisure who desire safe investments and are willing to forego the high profits which often go with stock ownership in order to obtain safety and a fixed income. These investors have no desire to engage in the active management of properties and therefore do not care to become stockholders. Consequently bonds, whose ownership places the owner in the position of a creditor only, are becoming more and more popular as investments. The

demand for them has also been enlarged by the stringent laws recently passed in the state of New York regarding the investment of life insurance funds.

75. *The word "bond" no synonym of safety.*—The considerations which have just been presented although in the main accurate must not be taken without modification. The investor is afforded little or no protection in the long run by reason of the fact that his investment is called a "bond." The name "bond" does not carry with it any guarantee of quality. A good stock is far better than a poor bond. There are so many kinds of bonds that each issue must be studied on its own merits. Pennsylvania Railroad stock, which has paid uninterrupted dividends for more than half a century, is a far better investment in every sense of the word than many inferior bonds which have recently been floated. In theory when a property cannot earn enough to pay the creditors the interest due them the owners must surrender the property, but in practice things do not always work out that way. The history of reorganizations proves conclusively that only those bonds which have large earnings behind them, or, in other words, are close to the property, come out of the fire unhurt. Bonds are so popular that many issues are floated which in reality are not entitled to the name, but a bond for the payment of whose interest there are ample revenues, will always fare well. Furthermore we must consider the fact pointed out in the volume on CORPORATION FINANCE that corporations seldom expect to pay off their bonds at maturity if it is possible to fund them into a new security. Naturally when revenues applicable to the payment of interest on any particular issue of bonds are ample that issue will fare well in any funding process and a bond for which earn-

ings are slim will fare poorly. The whole subject is well explained by Floyd W. Mundy, author of the "Earning Power of Railroads":

> The name "bond" does not carry with it any guarantee of quality. So far as the term is accepted as a synonym of protection or safety, it is, in this day, a misnomer. In recent years so many new kinds of railroad bonds have been introduced into our market, that the investor must use great care lest, in purchasing a bond, he finds himself possessed of a security far inferior in grade to many railroad stocks in which he would not choose to invest.
>
> The value of a bond therefore must rest to-day, more than ever before, upon the earning capacity and the character of the management of the issuing company. A bond may be a first mortgage on property, the value of which is much greater than the face value of the bonds issued against it, yet this bond may suffer considerably in the market, owing to the fact that the issuing company has outstanding other bonds issued against insufficient security, the result being that, if such company's credit becomes impaired, all the bonds of the company, good and bad alike, will suffer depreciation. The value of a bond is based upon the value of the security behind it and this value depends largely upon revenue-producing capacity.

76. *How bond values are determined.*—Although there are many bonds which are poorly secured and highly speculative in character it is safe to say that bonds as a class are safer and fluctuate less in price than stocks. Moreover the influences which determine their price are less complicated and more easily understood than in the case of stocks, which respond to fluctuating earnings and speculative conditions to a larger extent. We have seen that prices of stocks in the long run tend to approximate their true values, but in the case of bonds prices approximate values much

quicker as a rule. Indeed it may almost be said that a study of influences which determine bond values will practically be a study of influences which determine prices as well. The first and foremost factor which must be mastered is that of earning power behind the bond. This study is preliminary to all others and is treated at considerable length in subsequent chapters. Assuming, therefore, that in the purchase of a bond one first looks into the revenue producing capacity of the company the other factors to be considered are the following:

1. Rate of interest. A 4% bond will sell for less than a 5% bond, other things being equal. In purchasing stock the rate of dividends is often less important than the possibility of an increase in the rate, but in the case of bonds the rate is fixed and is therefore a fixed factor in determining the value of the bond.

2. Price and maturity. If a man buys a $1000 bond, bearing 5% interest, at $1,000 the income, return, or "yield," on his investment is 5%, but if he pays $1,050 for a $1,000 bond bearing 5% interest the yield is naturally less than 5%. If the bond were to run for all time, that is, if it were irredeemable, the yield would be 5 divided by 1,050 which is 4.76%. For all practical purposes this is the way the yield on stocks is arrived at, for though stocks are sometimes retired when provided for by charter they are generally purchased on the theory that they are irredeemable. If the bond in the case just referred to runs for one year only the buyer receives at maturity $1,000, the face value, and has also received in the meantime $50 in interest. As he paid $1,050 for his bond he has made nothing on the transaction.

If, however, the bond runs for, say, fifty years the

purchaser will receive interest for that period which will much more than make up for the $50 loss on the principal. The longer the bond runs the less does the $50 loss reduce the yearly returns of $50. In other words, to arrive at the true return, or yield, on the money invested, we must distribute equally over the years the bond has to run the loss which we suffer by paying a premium above the face value on the original purchase. The longer the bond has to run the smaller the loss.

Bonds are practically never perpetual and very few bonds run for one year only. There are also few bonds purchased at their face value. Consequently the question of determining yields is a most important one to the average investor. The general principle is that enough must be set aside each year out of the annual interest installment which with the compound interest upon it will at the maturity of the bond absorb the premium. This process is known as amortization. The amount necessary to set aside each year subtracted from the interest installment leaves the true yield. In the same way if a bond is bought below its face value we must, in order to arrive at the true yield, add to the yearly interest installment a certain amount which placed at compound interest will at maturity absord the discount. This process of amortization involves higher mathematics and cannot be gone into here. Tables have been prepared, however, which provide for all amounts, all rates of interest and all maturities and given these data one may learn at a glance the yield on any given investment. The tables also provide for the interest payment period, the general principle being that the oftener interest is paid the higher the yield. Most bonds, however, pay interest twice a year. The following is a sample page from Rollins' tables of bond values:

Annual Rate of Dividend.	Number of years of life required to yield % interest and in addition to furnish annual instalments which, if re-invested at 4%, will return the original investment at the end of the period.					
%	5%	6%	7%	8%	9%	10%
6	41.0					
7	28.0	41.0				
8	21.6	28.0	41.0			
9	17.7	21.6	28.0	41.0		
10	15.0	17.7	21.6	28.0	41.0	
11	13.0	15.0	17.7	21.6	28.0	41.0
12	11.5	13.0	15.0	17.7	21.6	28.0
13	10.3	11.5	13.0	15.0	17.7	21.6
14	9.4	10.3	11.5	13.0	15.0	17.7
15	8.6	9.4	10.3	11.5	13.0	15.0
16	7.9	8.6	9.4	10.3	11.5	13.0
17	7.3	7.9	8.6	9.4	10.3	11.5
18	6.8	7.3	7.9	8.6	9.4	10.3
19	6.4	6.8	7.3	7.9	8.6	9.4
20	6.0	6.4	6.8	7.3	7.9	8.6
21	5.7	6.0	6.4	6.8	7.3	7.9
22	5.4	5.7	6.0	6.4	6.8	7.3
23	5.1	5.4	5.7	6.0	6.4	6.8
24	4.9	5.1	5.4	5.7	6.0	6.4
25	4.7	4.9	5.1	5.4	5.7	6.0
26	4.5	4.7	4.9	5.1	5.4	5.7
27	4.3	4.5	4.7	4.9	5.1	5.4
28	4.1	4.3	4.5	4.7	4.9	5.1
29	3.9	4.1	4.3	4.5	4.7	4.9
30	3.8	3.9	4.1	4.3	4.5	4.7

3. Money rates.—Of course the general condition of business affects the value of all bonds but this is not much of a direct influence in the case of municipals and high grade railroad mortgage issues. Such securities will be influenced to a large extent in their market movements by money rates. When money is plentiful and not highly profitable in ordinary business pursuits more of it will flow into bond investments than when it is actively employed at high rates. Banks and other institutions are large buyers of bonds when they have little use for their funds and are often large sellers when money is in greater demand. The larger movements of bond prices are generally the result of the interaction of two forces, the loaning rate on money and the condition of business. Usually when business conditions are bad money is low while when conditions improve the rate goes up. The result is that the two influences are generally opposed and movements of different proportions and sometimes in different directions in different classes of securities are brought about. High grade bonds may be falling, middle grade bonds remaining stationary and poor bonds rising, all at the same time. This gives the market a very irregular appearance but a thorough study of the forces at work reconciles the apparent inconsistencies. As an example choice municipal bonds, whose safety cannot be impaired by any business depression, will be governed almost entirely at all times by money rates.

77. *Accrued Interest.*—The investor in bonds should understand the principle of accrued interest. If a bond, upon which interest is paid on January 1 and July 1, is purchased on January 28 the purchaser will receive on the July 1 following an interest coupon for a full half year. He is entitled, however, to interest for only

six months minus 28 days rather than for the full six months and in purchasing the bond he must pay the seller the interest for 28 days, which is known as the accrued interest. Anyone can figure up accrued interest, but the process though simple may take so much arithmetic as to make the use of a table an economy of time. On page 128 is a sample page from Rollins Accrued Interest Tables.

78. *Stock investment values.*—If dividends have been paid with regularity upon a stock for a number of years and a surplus has been set aside for improvements as in the case of the Pennsylvania Railroad the stock may be a far better investment than the bulk of railroad bond issues. No matter how good a stock may be, however, there is always a chance of reduction in dividends if earnings fail, which will lower the price, or the possibility of an increase in the rate, which will drive it up. Thus even the best of stocks, except guaranteed and preferred stocks, are liable to more irregular price fluctuations than bonds and though over a long period of years the holder may receive more income than he would from a bond he will be subject to more or less mental disturbance on account of rumors good and bad.

In buying stocks it is always necessary to inquire whether they are dealt in on a percentage or dollar basis. On the New York Stock Exchange all stocks are on a percentage basis with the exception of those of a par value of $25 or less, which are on a dollar basis as on the Philadelphia Exchange. The investor should of course know the par value of his stock. Nearly all the leading stocks on the New York Exchange are $100 par, but Reading, Pennsylvania, Lackawanna, Westinghouse Electric and a few others are $50 par. Union Pacific at 200 is selling for $200 a share but Pennsyl-

Accrued Interest on $1,000 Computed on Basis of 360 Days in a Year. One Month of Thirty-one Days.

Days	2%	3%	4%	5%	6%	7%
1	$0.0556	$0.0833	$0.1111	$0.1389	$0.1667	$0.1944
2	0.1111	0.1667	0.2222	0.2778	0.3333	0.3889
3	0.1667	0.2500	0.3333	0.4167	0.5000	0.5833
4	0.2222	0.3333	0.4444	0.5556	0.6667	0.7778
5	0.2778	0.4167	0.5556	0.6944	0.8333	0.9722
6	0.3333	0.5000	0.6667	0.8333	1.0000	1.1667
7	0.3889	0.5833	0.7778	0.9722	1.1667	1.3611
8	0.4444	0.6667	0.8889	1.1111	1.3333	1.5556
9	0.5000	0.7500	1.0000	1.2500	1.5000	1.7500
10	0.5556	0.8333	1.1111	1.3889	1.6667	1.9444
11	0.6111	0.9167	1.2222	1.5278	1.8333	2.1389
12	0.6667	1.0000	1.3333	1.6667	2.0000	2.3333
13	0.7222	1.0833	1.4444	1.8056	2.1667	2.5278
14	0.7778	1.1667	1.5556	1.9444	2.3333	2.7222
15	0.8333	1.2500	1.6667	2.0833	2.5000	2.9167
16	0.8889	1.3333	1.7778	2.2222	2.6667	3.1111
17	0.9444	1.4167	1.8889	2.3611	2.8333	3.3056
18	1.0000	1.5000	2.0000	2.5000	3.0000	3.5000
19	1.0556	1.5833	2.1111	2.6389	3.1667	3.6944
20	1.1111	1.6667	2.2222	2.7778	3.3333	3.8889
21	1.1667	1.7500	2.3333	2.9167	3.5000	4.0833
22	1.2221	1.8333	2.4444	3.0556	3.6667	4.2778
23	1.2778	1.9167	2.5556	3.1944	3.8333	4.4722
24	1.3333	2.0000	2.6667	3.3333	4.0000	4.6667
25	1.3889	2.0833	2.7778	3.4722	4.1667	4.8611
26	1.4444	2.1667	2.8889	3.6111	4.3333	5.0556
27	1.5000	2.2500	3.0000	3.7500	4.5000	5.2500
28	1.5556	2.3333	3.1111	3.8889	4.6667	5.4444
29	1.6111	2.4167	3.2222	4.0278	4.8333	5.6389
30	1.6667	2.5000	3.3333	4.1667	5.0000	5.8333
31	1.7221	2.5833	3.4444	4.3056	5.1667	6.0278

NOTE—In Rollin's tables the interest is computed also for 2½ per cent, 3½ per cent, etc.

vania at 137 is selling for $68.50 a share. Reading always appears to be a very active stock but it should be remembered the activity as well as the fluctuations are magnified 100% by the $50 par value. Stocks which have a $50 par value are known as half stocks and many ignorant investors have been much bewildered when they bought or sold these shares and found the amount paid out or received was only half of what the market quotation called for.

79. *Book value.*—No phrase is more used in speaking of investment stocks than that of "book value." The book value of a stock is based on the net profits or deficit of the corporation which issued it. If a bank has net profits of $75,000 and a capital stock of $100,000 the book value of the stock is $175 a share, provided the par value of the shares is $100. If there is a deficit of $75,000 the book value is $25. In other words book value means par plus the accumulated surplus and undivided profits or minus the deficit.

In quoting bank stocks it is a frequent practice to give book as well as market values, and in the case of a bank stock this is well, for the net profits are always, or at least should be always, in liquid, if not in actual cash form. But in the case of a railroad or industrial corporation, the surplus of which usually represents improvements made rather than cash or liquid assets, it is dangerous to lean much on book value. A few years before the Westinghouse Electric and Manufacturing Company was placed in the hands of a receiver, a strong point was made in favor of the stock in that it had a book value of $200 a share. How mistaken was this mode of reckoning need not be told; instead of there being any equity in the company's assets, there was an assessment levied of $25 on each $100 share.

Nearly all stocks represent merely a fractional interest in the profits of a corporation which are available for dividends and upon this interest the market usually places the fairest price. Nevertheless book value, if honestly estimated, is a check upon market price. The fairest way to get at the real value of an investment stock is to take into account all three standards of value, par, book and market.

80. *Bank stocks.*—Banks in order to conduct their business safely always attempt to build up a large surplus. This enhances the book value of bank stocks, also their safety, for only part of the earnings are paid out in dividends. The income is usually small on account of the high prices at which bank stocks sell, but if a bank is at all successful the value of the stock and its price will appreciate more than most classes of securities. The market for bank stocks is limited and therefore these securities possess poor convertibility. Speculation in bank shares is rare. Rich men are the chief buyers not only because they can afford to forego present income for the sake of an increase in value but because ownership of banks gives to them valuable privileges for the conduct of their business. Nevertheless the shares of the national banks are held by more than 300,000 persons, the distribution of ownership being by no means small.

The importance of bank shares as investments is apt to be underrated because they are not actively dealt in on the stock exchanges. Yet it is probable that about 20 per cent. as much capital is invested in bank stocks as in railroad shares. Bank shareholders are liable to assessment in case of impairment of capital and the success of a bank depends absolutely upon the integrity and ability of the directors and officers. For these

reasons the personal element enters largely into such investments and their market is narrow and almost entirely local. On the other hand, bank stocks are rarely manipulated in price and if the stock of a bank is fairly well distributed there is usually but little trouble in finding a market for it when one is needed.

Banks, if at all successful, pay good dividends, and others than the very wealthy investors are learning this fact. Recently farmers have been extensive buyers of bank shares. In Minnesota fully 50 per cent of the stock of country banks is now owned by farmers. Since 1900 the number of country state banks in Minnesota has grown from 187 to 672 and nearly all have been started by farmers. Practically all are earning as much as 8 per cent. and some earn 25 per cent.

81. *Guaranteed stocks.*—Several of the larger railroads have guaranteed dividends upon the stocks of smaller companies leased by them and these securities are in many cases excellent investments. Many of the leases are perpetual and were made years ago and the leased companies are now earning far more than the amount of the rental or guaranteed dividend. This class of securities is well described by the *Wall Street Journal* as follows:

> There are numerous advantages which certain guaranteed stocks offer to investors, and the best class ranks well up with the very highest securities. Their position is unique and in a way is similar to one-name paper in that both are entirely dependent for value upon the credit of the guarantor. These stocks stand just after the bonds and just before the stocks of the leasing company, and so are in reality the first preferred stocks. The financial status of roads of the type of the New York Central, the Union Pacific, the Pennsylvania and the New Haven is unassailable, and the stocks of companies which such

systems lease under provisions of guaranty find a good demand.

It has been the policy of the systems to make each leased line stand upon its own base, and if possible earn the dividend paid. With some roads all improvements are charged to the leased line, and since many of the railroads are dependent upon lines thus controlled for entrance and terminal facilities in New York, Philadelphia, Chicago and other large cities they usually find it to utual advantage to take good care of the properties.

There are, on the other hand, some serious disadvantages to even the best of such stocks, the foremost being the limited market and the extreme inactivity of the stock, which makes it more or less difficult to dispose of immediately should such a contingency arise. So long as the renting company can maintain its own earnings, meet fixed charges and show a satisfactory surplus available for dividends to its own stock, the security of the guaranteed stock will remain intact, but there always remains the potential risk that the guarantor will renounce the rental should it become burdensome and unprofitable to continue the arrangement.

Being tax exempt in most states, they have found favor with the ultra-conservative, who, together with trustees, guardians and executors, are looking for the safety of both principal and interest. Before the Armstrong law forbidding insurance companies of New York State to invest in stocks these institutions were among the best bidders for these issues, and since the law ordered that all stock held December 31, 1906, should be disposed of at the discretion of the companies within five years from that time a great deal of this stock has appeared in the market. As proof of their intrinsic worth many of these securities are now selling on an income basis practically the same as that of high grade bonds and in a few instances the yield is less.

82. *Mill Shares.*—The chapter on industrial securities includes in a general way the main considerations which apply to mill shares, but these securities are so peculiar unto themselves and form such an important part of

the high grade investments of New England and the South that they deserve to be separately considered in this place. Cotton mills comprise one of the largest industrial investments in the country. The 1900 Census gave the cotton textile mills a capital valuation of $467,000,000 and the 1910 Census will probably show a capital valuation of $650,000,000. The Fall River market for mill shares is not much in the public eye and brokers on stock exchanges other than that of Boston hardly know of the existence of such a market. The volume of transactions is small but the market is important because it indicates the exact fundamental condition in one of the country's most important industries.

In a general way the large New England cotton mills carry a low capitalization and pay seemingly enormous dividends on their small capital. In 1910 the Butler Mills, of New Bedford, on a capital of $1,500,000 paid a half yearly dividend of $350,000 and many other similar cases might be cited. Although railroad stocks are supposed to possess an inherent stability that industrials do not enjoy, the mill share did not decline to anything like the extent of the leading rails in the long bear market of 1909-1910. For King Philip, never above 190, 170 was bid in the summer of 1910 whereas Union Pacific, which sold at 219 in the summer of 1909, fell to 152¼ in 1910.

Many of the best mill stocks are closely held, but Boston brokers can always secure a few shares of the good stocks for customers.

83. *Preferred stocks.*—Much valuable information regarding preferred stocks is contained in the volume on CORPORATION FINANCE and about the only point to be made here is that the investor should not be led astray

by a name. Preferred stocks differ among themselves as much as bonds. All preferred stocks have preference as to payment of dividends, but often dividends are limited to a fixed amount, while there is no limit to dividends on common stock. In other cases preferred stocks do not share in profits beyond a fixed rate. Some preferred issues are cumulative in the matter of dividends, that is, if the dividend is not paid one year it becomes a sort of charge on the earnings of following years. Frequently large amounts of unpaid back dividends are paid off when the corporation becomes prosperous. In other cases a compromise is made with the shareholders by which they accept a new security. Almost every preferred stock differs as to its privileges. Often preferred and common stocks differ as to voting power.

Railroad preferred shares are seldom cumulative. With the stronger companies the preferred stock is practically a bond. For the most part there is a tendency on the part of the railroads to retire their preference issues. With manufacturing and other industrial corporations the case is different. Preferred stock forms a very important part in their financing. When the great industrial consolidations, or trusts, were formed preferred shares were usually issued in payment for the actual property of the plants taken over and the common shares were put out to represent what the promoters hoped would be the increased earning power of the constituent companies under consolidation. To a large extent earnings have caught up to the common stock sufficiently to maintain the preferred on a stable footing. Preferred shares of such corporations as the United States Steel, United States Rubber, National Biscuit, American Smelting and Refining and,

many others which might be named, have paid dividends with regularity and form a desirable class of investments. These stocks yield higher than others which pretend to any degree of safety. Although the large industrial corporations are issuing bonds now more than they did during the first few years following their formation the preferred stocks are in most cases still very close to the earnings of the various properties. During the panic of 1907 few of the larger manufacturing trusts had any trouble in paying their preferred dividends although the American Locomotive Company fell $762,000 behind in earning its 7% rate in that year. This company, however, builds up a large surplus in good times.

CHAPTER XII

GOVERNMENT BONDS

84. *Legal security of government bonds.*—The class of investments which are regarded as the safest and the most highly desirable are the bonds of the leading governments of the world. It is a common saying that an investment is as safe as a government bond. No other investment can approach them in security. The timid investor, who desires protection and absolute security above all else, purchases these securities. Trust estates, which care more for security of the principal than the size of the yield, also furnish a ready market for this form of investment. In many cases they are limited by law to government bonds, or state or city bonds, in their selection. Another important class of buyers is composed of banking institutions. The British law makes this form of security especially attractive to savings banks while our National Bank Act contains provisions which are designed to make the national banks large buyers of our government bonds. As a consequence most of the large countries are able to sell their bonds at high prices with unusually low interest yields.

Their legal security is startlingly weak in view of the high opinion in which they are invariably held by investors. The government bond is a plain promise to pay, issued without any security other than the faith and credit of the government. A nation simply promises that it will pay the bearer, or registered holder, of

the bond a certain sum of money at the expiration of a given period of time and that during the interval, on certain specified dates, it will pay interest upon the loan. With the exception that there is greater formality and a more lengthy statement of the obligation, the government bond is not unlike the ordinary promissory note given by an individual or corporation. The chief difference is that the loan of the government is of much greater duration, being for a number of years instead of a few days, and that the responsibility of the maker of the note is many times greater.

Almost all other forms of investment are secured by a special claim upon certain tangible property. In the volume on CORPORATION FINANCE the character of these claims is described in detail, and the security which is given is considered at length. The government bond, and state and municipal bonds which we will consider later, differ from other forms of investment in that there is no special claim on any tangible property which can be sequestered or set aside. The security which lies behind the bond is entirely apart from the value of any specific property.

The investor's position is also weakened by the fact that the law sets the nation above and apart from other classes of individuals in so far as the ability of the creditor to collect is concerned. All nations are regarded as sovereign. They are, therefore, above the laws unless they consent to be amenable to the law. It is impossible to sue a sovereign state without its consent, and if a nation, therefore, chooses to repudiate its debt there is no means by which the debt can be collected. The reason for this situation is that the foundation of all law is force. People get together and form an organization for the regulation of their affairs,

called a government. This government draws certain rules, called laws, and the public opinion of the community is the impelling force which sees that these laws are carried out. A government could not repudiate its bonds, without the consent of its people. Failure to get this consent would remove the element of strength necessary to make a law operative.

There is a body of law, much discussed by theorists and scholars, known as International Law, which is supposed to be a codification of the rules which bind the nations in their relations with each other and with the citizens of other powers. This international law, however, has little or no real force. It is to a large extent a collection of precedents and its weakness comes from the fact that these precedents may never be followed again. Even where governments have entered into an agreement any one power can terminate the agreement at any time by refusing to carry it into effect. The government in other words is totally irresponsible so far as any controlling force is concerned.

It is for these reasons that we define government bonds as simple promises to pay without security. The only safeguard which the creditor has, and which in the case of first rate powers is ample, is the honesty of the people of the country which will force their government to keep its financial obligations faithfully, coupled with the financial ability of their government to meet its claims when they fall due. In the case of the great powers and of many of the smaller states there is no question, even in the minds of the most timid, about the ability and willingness of the government to pay.

85. *Considerations affecting the value of these bonds.*—The value of the government bond bears no relation whatever to the amount of property which the

government itself possesses. Where the people of the country exercise good faith the bonds are in reality an indirect mortgage upon all the public and private property within the country. There is no nation whose bonded debt bears more than an insignificant ratio to the total value of the property within the country, which by implication is pledged for its payment.

The considerations which affect the standing, and of course the value of government bonds are as follows:

1. The honesty and good faith of the people.
2. The stability of the government.
3. The revenue and expenses of the government.
4. The probable future of the revenue of the government.
5. The supply and demand for the bonds.

86. *National honor.*—The most important consideration is the honesty and good faith of the people. The nations of the world fall into three classes: those about which there is no doubt concerning the payment of the national debt; those where there is a possibility that the national debt may be repudiated; and finally those countries where the sense of financial honesty is so low that repudiation is to be expected. Practically all of the great nations of the world come under the first classification. The securities of such powers as England, France, Germany or the United States are as safe as could be desired. These great commercial nations have developed a sense of national honesty which will at all times be effective in protecting their national debts. They regard it as dangerous and foolhardy to repudiate their debts. There are no circumstances under which repudiation is conceivable.

87. *Stability of the government.*—The second consideration concerns the stability of the government.

An unstable government has a bad effect upon the salability of bonds, for investors are unwilling to purchase fearing that another element either extravagant or irresponsible may come into power. Countries in which revolutions are frequent are not regarded as good financial risks. An illustration of the effects of the sudden overturning of an established government is furnished by the history of France during the French revolution. The Bourbon kings, who ruled over France for generations, had piled up an enormous burden of debt and when the French revolution burst out the irresponsible leaders who came into power repudiated the debt, causing heavy losses to its holders.

88. *The fiscal operations of the government.*—The third consideration to be taken into account in judging of the desirability of government bonds is the revenue and expenditures of the country. The factor is most carefully considered in the case of relatively new countries which have either not advanced in their economic development or are expanding with tremendous rapidity thereby making possible sudden disaster. It is essential, in order that the bonds may be above question, that the government's fiscal report shall show a considerable balance of revenue over and above expenses, under ordinary conditions. The interest and sinking fund on the bonds must be paid from this surplus fund.

The consequences of a rapid expansion in the national debt of a country are illustrated by the experience of Japan in the war with Russia. At this time Japanese government bonds were practically unknown in foreign money markets. The bonded debt of the government was then, as it still is, divided into two parts. The first part known as the external debt, consisted of two issues of bonds totaling approximately thirty-four million dol-

lars; and the internal loans or those which were held by the people of Japan, amounted to about two hundred and twenty-seven million, five hundred thousand dollars.

89. *How Japan became a notable borrower.*—The breaking out of the war forced Japan to become suddenly the leading borrower in the money markets of the world. In the years 1904, 1905 and 1906 this nation borrowed in Europe and in the United States, five hundred and forty million dollars; bringing up the total foreign loans outstanding to five hundred and seventy-five million dollars. At the same time Japan sold, for the same purpose, almost two hundred and forty million dollars of internal loans to its own people, with the consequence that the total debt of the country rose in the short period of three years from two hundred and sixty-two million dollars to one billion and one million dollars.

The most significant feature of this remarkable expansion in the national debt of Japan, however, is the jump in the amount which was held in foreign countries from thirty-five million dollars to five hundred and seventy-five million dollars. This money was secured by the issue of 4½ and 4 per cent bonds which were sold at prices yielding to the investor a trifle over 5 per cent.

The things which were taken into account in judging of the value of these bonds when they were issued, are typical of those which would be considered by any country under similar circumstances. The first inquiry concerned the probable success of the Japanese nation in the war with Russia. Defeat would have so crippled Japan that it would have been probable that it might be unable to repay its debt. On the other hand, success would not only mean an indemnity but it would have

a certain electrical effect upon the people, stimulating all kinds of production. In addition the war might give to Japan valuable territory which could be made to bear a portion of the debt. While the war was in progress the bonds were little better than a first class speculation. As soon as the war ended with success for Japan, the bonds became a first class investment.

The second inquiry which was made concerned the ability of the Japanese government, after the war was ended, to carry the enormous burden of debt which it had incurred. The total expense of the war, both direct and indirect, was nine hundred and seventy-five million dollars. This money was raised as follows:

External loans	$540,000,000
Internal loans	240,000,000
Increased taxation	106,300,000
Reduced expenditure	48,200,000
Borrowed from several accounts	31,500,000
Voluntary contributions	750,000
Miscellaneous receipts	7,705,000
Total	$974,455,000

This showing of the Japanese people was very encouraging to the investor because it showed that the nation had resources in addition to money borrowed from other countries. In the first place the people of the nation subscribed $240,000,000 to the war funds and in addition they successfully carried $106,000,000 of taxation. In other words almost $350,000,000, or over one third of the total expenditure, was borne by the country itself.

The concern of the investor, after Japan's success was assured, was largely centered upon the ability of the government to carry the enormous fixed charges involved in such a heavy bonded debt. The income account of the Japanese government at about the time when the debt was at its maximum in September, 1905, and before it had been reduced through the operations

of the sinking fund, showed that the total revenues were about $112,090,000 (from this must be deducted the ordinary expenses of the government, at that time $89,608,487, and the fixed charges on the debt amounting to $23,750,000). This showed that the government had a deficit during that year of $1,268,487. While this sum is large in itself yet it is only about 1 per cent of the total receipts. It was evident, therefore, that the government, with a very slight alteration in its scheme of taxation, would be able to meet its financial obligations, so long as the country remained in good condition.

90. *How changes in a government's revenue influence the value of its bond.*—The Japanese situation might be carried further to illustrate the fourth factor in influencing the value of government bonds. This concerns the probable future revenue of the country. The amount of money which the country can raise depends ultimately upon the financial and commercial prosperity of its people. So long as its people are prosperous and making money they can easily bear the taxation necessary to defray the obligations of the government. When, however, the country falls upon misfortune it is impossible for the government to collect heavy taxes. A prosperous people makes a prosperous government. When a country, therefore, has an enormous bonded debt and is saddled with heavy fixed charges the investor carefully considers the probable future of the revenue of the country. He finds the answer to his query in an analysis of the commercial condition of the nation. If it seems certain that a country will advance in material wealth, that its people will be prosperous and contented; that its manufacturers will find a ready market; that its commerce will be

successful, its agriculture flourish and every trade and occupation yield a satisfactory income to those engaged therein, he must conclude that the future revenue of the nation is reasonably secure. In the case of Japan, the consensus of opinion on this point was almost uniformly favorable. The success of the nation in the war with Russia meant that it was a dominating force in eastern politics. Its manufacturers had already demonstrated their ability to compete for the Oriental trade. The thrift and industry of its people were proverbial. In brief the economic outlook for the country was extremely encouraging.

Under such conditions, therefore, even the most conservative predicted a vast extension in Japanese trade and a consequent increase in her receipts from internal taxation and from customs duties. The revenue of the Japanese government at the close of the war, when trade was more or less disarranged as a result of the conflict, was sufficient to pay the interest on the debt. With the return of normal conditions and the extension of her commerce it was certain that her revenue would steadily increase. On the other hand her fixed charges would steadily decrease as the operations of the sinking fund would retire a portion of the debt. There was, therefore, in the minds of the investors little question that the bonds of the Japanese government were good investments.

91. *Supply of and demand for government bonds.* —The final element to be considered in determining the value of government bonds is the supply and demand for the security. The yield on these bonds depends largely upon the operation of supply and demand. When the demand for bonds is greater than the supply a government finds that it can get par for

them while offering a very small interest rate. The United States government, for example, by the provision of the National Bank Act requiring every national bank to own a certain amount of government bonds, has created an artificial market for its own securities. The consequence of this has been the ability of this government to borrow money at lower rates than any other nation in the world. The English bonds called consols also have a broad market because of the large purchases made by savings banks and other financial institutions.

The effect of supply and demand upon the price of bonds, and upon the rate of interest which must be paid in order to give them a ready market, is seen most clearly by the developments which usually follow the beginning of hostilities. War always brings a reduction in the price of the bonds of the belligerents. It is not alone the country which it is believed will meet with failure in the war, which is affected. The beginning of hostilities means that there will be an immediate increase in the supply of bonds, for the government must go into the market and float large loans to secure the funds necessary to prosecute the war. A most striking example of this decline is furnished by the drop of British consols from 113 in 1896 to 91 in 1901. During this time the British government had been selling large amounts of bonds to prosecute the Boer War. The disparity in the size of the contestants made it inevitable that Great Britain would win, yet a heavy decline resulted. This fall was not due, however, entirely to the influence of supply and demand. A portion of it must be accounted for by a reduction in the rate of interest on the new issues from 2¾ to 2½ per cent.

The beginning of hostilities also exercises an indirect effect upon the value of government bonds. The leading powers are all great commercial and trading nations. A war between two first class powers is bound to result in more or less interruption of international commerce and trade. This is apt to reduce materially the income of the government and may perhaps force it to borrow money for the purpose of paying interest on its bonded debt. This unfavorable condition is, of course, reflected in the value of the securities.

The following comparison is interesting because it shows the rates at which the leading powers can borrow:

	Rate	Yield
British Consols	2½	2.8%
United States two's	2	1.9%
French	3	3 %
German	3	3.4%
Dutch	2½	3.2%

The first thing which strikes our attention is the low rate which these bonds yield, as compared with other forms of investment. This represents the premium which the investor pays for the security which he buys. In a general way the rate of yield corresponds almost directly to the estimation which the investor puts upon the bond.

92. *Bonds of second-class powers.*—There is another class of governments not rated as first-class powers and whose bonds are not held in such high estimation as those which we have been considering. In most cases there is little or no doubt about the payment of interest and the security of the principal. These bonds however, are not as eagerly sought after and the weaker demand shows in the price and interest rate. A good illustration is furnished by countries such as Chili, Egypt or Hungary. These states are not regarded

as able to protect themselves under all conditions and their economic condition is not well known to investors. Their bonds naturally suffer in reputation. Very few of these countries are able to carry on the work of their government without calling upon the foreign money market for funds. Such states, even by appealing to the patriotism of their citizens are not able to secure the necessary money. As a consequence these countries are forced to make concessions, usually in the form of a higher interest rate. Bonds of Chili, bearing 4½ per cent yield about 4.4 per cent. The bonds of Egypt bearing 4 per cent yield 3.9 per cent; the bonds of Hungary bearing 4 per cent interest yield 4.2 per cent, while the bonds of Italy carrying 6 per cent, yield 5 per cent to their owners. Everyone realizes that the bonds of these countries are not as good as the bonds of first rate powers such as England, Germany or France. Judged from the ordinary standards, however, the security of these bonds is ample.

93. *Government bonds which are speculations.*— There is a third class of government bonds issued by countries whose willingness to pay their debts may be legally called in question because of the instability of their governments. The best illustrations of this class of bonds are furnished by the securities put out by the Central and South American countries. Quotations on the securities of these powers can only be secured at irregular intervals. According to the latest reports they stand as follows:

	Nominal Interest	Price
Columbia	2½	14½ — 24
Costa Rica	5	17½ — 25
Guatemala	4	15 — 24½
Honduras	10	4¾ — 5¾
Nicaragua	4	57 — 59
Paraguay	3	30 — 34
Uruguay	3½	52 — 58
Venezuela	5	73 — 79

The history of the debts of these countries is substantially similar. Bonds are put out at absurdly low figures and being sold to second rate banking houses, are bought largely by the class of people who buy speculative industrial and mining stocks in this country. The issuing nation continues to pay interest on the bonds for a couple of years until the issue is all marketed and then repudiates them. There is not at the present time a very large amount of these bonds outstanding. Venezuela for instance, has only twenty million dollars and the amounts issued by the other leading countries are comparatively insignificant.

94. *Blighting effect of the lack of national honor.*— The element which gives to these bonds such a low standing, causing them to be sold at prices almost nominal, is the lack of national honor in these countries. They have no compunction about repudiating their obligation to pay their debts, shielding themselves behind various pretexts which are wholly unsound. The significance of this important factor in giving value to government bonds can be best understood by following the experience of the British holders of the bonds of Honduras. Honduras in 1873 sold bonds with a par value of £5,398,570. For many years the nation had failed to pay the interest upon the debt prior to the opening of negotiations for settlement. At the time these were begun—in December, 1903—the total amount due for both principal and accrued interest was not far from $100,000,000. Investors had given up hope of ever getting justice and the price of the bonds had fallen to 6 on the London Stock Exchange. The Minister of Honduras, in response to pressure for settlement, offered on behalf of his government to recognize the obligation to repay to the holders of these bonds the

sum of £323,000 which he described as being the "true debt" of the country, to pay 4 per cent interest on the bonds from that time on, and to maintain a 2 per cent sinking fund until the bonds were extinguished. The *London Economist,* a leading British financial paper, in commenting upon the offer, said:

> Owing to the absentmindedness of the Honduras Government in regard to its obligations to its creditors, a genial failing quite common in South America, its bonds have fallen to six on the London Stock Exchange. Therefore, in effect, argued the patriotic Dr. Ugarte, if we recognize our indebtedness on the basis of the low market price of our bonds, brought about by our own default, we shall be nobly living up to the onerous responsibilities that devolve on all highly civilized states. Moreover, he affirmed, in sonorous, if not convincing language, that the proceeds of the loans issued in London in 1867 and 1870, and in Paris in 1869, with the object of constructing an inter-oceanic railway across Honduras "was diverted from its true purpose," the value she received being only equivalent to £312,000. Thus there were two principles laid down here which are not recognized in the effete Old World. First, that a country which has reduced the market value of its debt almost to zero by its default, may honorably settle with its creditors on the basis of that market value; and, secondly, if a borrower fail through his own fault, or that of his agent to receive the sum lent, it is the lender alone who must bear the loss. These principles may flourish in the pure, free air of liberty loving Honduras, but they are stifled in the musty atmosphere of law-ridden England.

95. *Repudiation becoming less frequent.*—The impunity with which nations having a low standard of honor repudiate their debts is constantly diminishing. This is due to the development of a new rule with reference to the obligations of the States towards their cred-

itors. Almost all of the treatises on international law lay down the doctrine that intervention is justifiable only in the case of absolute emergency, and that it is the duty of all nations to protect the integrity and sovereignty of each other at all times. This theory, however, is rapidly breaking down. A recent illustration is furnished by the experience of Venezuela. This country had threatened to repudiate its obligations but instead of being permitted to carry out this dishonest plan the Powers served notice that such a course would not be tolerated. This notice was disregarded, whereupon pressure was brought to bear upon the South American republic to force a promise to settle. In consequence an agreement was secured by which the customs receipts were to be turned over, under stipulated conditions, for the repayment of the debt and the payment of interest. This method of turning over a portion of the revenue of the debtor state to pay the interest and principal of bonded indebtedness had been used on several previous occasions. The debt of Turkey for example, has been placed under the control of a Council of Administration, appointed by various syndicates representing the bond-holders, which sees that sufficient income is derived to meet the financial obligations of the nation.

96. *Intervention to force payment.*—The great difficulty in the general extension of the right of intervention for the collection of debt is due to the fact that the world is divided into certain spheres of influence. The ordinary method of collecting a debt is to seize land. This, however, brings the creditor nation into conflict with that power which regards the offending country as under its guidance and protection. In the case of Turkey, for example, intervention is not permitted un-

less all of the powers act together, while the attempts of European countries to collect from South American republics bring them into conflict with the Monroe doctrine. The substance of the Monroe doctrine is that the United States will not view with equanimity any further extension of European power on this continent. The United States, however, during the Roosevelt administration recognized the justice of the European contention that this country could not assume to keep every nation out of South America without at the same time assuming certain responsibility for the proper and decent conduct of affairs on that continent. If we are to insist upon the Monroe doctrine it is necessary for us to exercise certain police power over the republics which threaten repudiation of their obligations. This arrangement, however, is not definitely established. It is predicted, that it will not be very long before the United States will take an active part in forcing modern standards of commercial honesty upon the offending countries and the finances of several of the Central American states have recently been placed on a more stable basis by leading New York bankers.

97. *Guardianship of Cuba.*—One of the most interesting developments along this line has been the attitude which the United States has assumed toward Cuba. As a result of the war with Spain we secured possession of Cuba. Later we agreed to give the island her independence upon certain conditions which were intended to keep it from falling into financial difficulty. These conditions were incorporated in the famous "Platt Amendment" which was tacked on as an amendment to the Army Appropriation Bill of 1901. The portion of the amendment concerning the creation of indebtedness, is as follows:

"That said government shall not assume or contract any public debt, to pay the interest upon which, and to make reasonable sinking fund provision for the ultimate discharge of which, the ordinary revenues of the island, after defraying the current expenses of government shall be inadequate."

The agreement was later embodied in a treaty between the United States and Cuba. The amendment and treaty both prohibit the assumption of a debt which shall be so heavy as to become unmanageable. No provision was inserted by which the United States was given a veto over any proposed issue, nor was the course of this government outlined in case the obligation was not faithfully observed. It is generally believed, however, that any deviation upon the part of Cuba would cause a prompt protest from our government which, if not heeded, would lead to military intervention. The control which the United States exercises over Cuba has had a most beneficial effect upon the credit of the Island Republic. At the time when Cuba floated the thirty-five million loan, Speyer and Company, a conservative banking firm in New York, bought the entire issue.

It is very possible that the relations which the United States assumed towards Cuba will be gradually and slowly extended to the other countries over which we exercise a protective influence. This movement will be accelerated as soon as American capital begins to go into these countries.

CHAPTER XIII

UNITED STATES BONDS

98. *Issues prior to National Banking System.*—The financial history of the United States has been an interesting one and we have had almost every experience to which a nation might be subject. During the Revolution the difficulties were of course the greatest ever experienced; the Colonies were loosely bound together and the money that the Colonial Congress had issued had depreciated until it was almost worthless. One Spanish dollar would bring about a thousand paper dollars, and it was only with extraordinary difficulty that loans were negotiated. We borrowed money in France and were able to do so on account of the friendship of the French and the French government but not because they thought the loans were good. Some money was borrowed in Holland, one loan being guaranteed by the French government. The entire foreign indebtedness in 1790 amounted to only $10,000,000. We had also put out some domestic loans, and this together with the money due for supplies purchased from abroad made the total indebtedness about $53,000,000.

At the inauguration of Washington, Alexander Hamilton was made Secretary of the Treasury and he found it empty. He negotiated a small loan for actual running expenses, payment of salaries, etc., amounting to a couple of thousand dollars, with one of the few banks then existing. Of course, we had no particular credit abroad, but Hamilton managed to borrow money in

Holland which he afterwards repaid with money he borrowed in France, and then he borrowed money again in Holland to pay the French loans. In 1798 a loan was negotiated bearing 8% interest which is the highest rate ever paid on a United States bond.

There were also certain state debts and a good deal of state scrip in circulation. There was a good deal of discussion and considerable feeling aroused at the time the founders of the government were trying to decide upon a site for the national capital; and when they were fighting over this question, the northerners insisting that the capital be located in one of the northern states and the southerners insisting that the capital be located in the south, the question arose as to whether or not the state scrip should be guaranteed by the new government. Jefferson did not think this should be done, but Hamilton represented northern states who had issued most of this script. Finally a compromise was effected. Hamilton said we will allow the capital to be placed in the south, providing you in the south will agree to guarantee our scrip. This resulted in the District of Columbia being accepted as the site for the national capital.

In 1800 our credit improved, the debt was funded and all who had invested in bonds of the Colonial Congress were paid or their loans recognized as entirely safe. Difficulties began again with the war of 1812. The government put out a moderate amount of bonds, but as the war continued it became increasingly difficult to float United States bonds; finally $5,000,000 of 5's were offered for public subscription at 80 and of these only $20,000 were subscribed for by the public. It is stated that Stephen Girard took the balance and made a fortune from them later.

Our debt was practically paid for by 1835 through the operation of the sinking fund, and we were fortunate in that respect for none of the other powers have ever come near being in the position of not having any debt. Even in 1857, just prior to the Civil War, our debt was only $10,000,000. With the progress of the Civil War credit was again in a precarious condition, and the government kept issuing bonds as fast as it could; as the supply increased, the rate also increased. The highest point reached was $2,675,000,000, about $77 per capita; of this amount $400,000,000 was not interest bearing. The debt has been declining for the most part since August, 1865, although the construction of the Panama Canal and other public works bids fair to bring about another increase.

99. *National Banking System.*—As a result of the Civil War the National Banking System was created. It was enacted primarily to create a market for government bonds. The act provides in brief that banks may incorporate as national banks by purchasing bonds of the United States to the extent of not less than 25% of their capital and issue circulating notes against these bonds. The bonds are held in trust for the banks by the government but the interest goes to the banks so there is generally a profit in taking out circulation because the banks receive both the interest on the bonds and the loaning rate on the money issued against them. National banks also receive deposits of public monies for which they must present as collateral security government or other bonds. The high prices for United States bonds are due to the artificial value given them as basis for bank note circulation. At the present time a large proportion of all the bonds of the United States government are held by the Treasurer of the United

BONDS HELD IN TRUST FOR NATIONAL BANKS, NOVEMBER 5, 1909.

	Kind of Bonds.	Rate of Interest.	Total Amount Outstanding.	Bonds Held for National Banks — To Secure Circulation.	To Secure Deposits of Public Moneys.	Total.
	Government.					
I.	U. S. Loan of 1925.....*at par*..	4	$118,489,000	$15,484,050	$3,301,700.00	$18,785,750.00
	U. S. Loan of 1908–18.....do....	3	63,945,460	14,640,560	3,608,900.00	18,249,460.00
	U. S. Consol of 1930.....do....	2	646,250,150	573,542,200	24,192,700.00	597,734,900.00
	U. S. Panama of 1936.....do....	2	54,631,980	50,097,200	3,010,000.00	53,107,200.00
	U. S. Panama of 1938.....do....	2	30,000,000	26,113,980	1,369,000.00	27,482,980.00
II.	Philippine Loans.....do....	4	16,000,000	.....	4,276,000.00	4,276,000.00
	Porto Rico Loans.....do....	4	3,900,000	.....	399,000.00	399,000.00
	District of Columbia.....do....	3.65	9,494,800	.....	810,000.00	810,000.00
	Territory of Hawaii, *at 90 per cent of par*	Various.	3,959,000	.....	487,000.00	487,000.00
						136,000.00
	Miscellaneous.					
III.	Philippine Railway Company, *at 90 per cent of market value not exceeding 90 per cent par*.....	4	5,880,000	.....	136,000.00	
IV.	State, City, and Railroad, *at 90 per cent of market value not exceeding 90 per cent par*.....	Various.	.....	.....	10,652,500.00	10,652,500.00
	Total.....	.....	.....	679,877,990	52,242,800.00	732,120,790.00

When banks have occasion to withdraw bonds held by the Treasurer to secure deposits of public moneys, the following shall be the order of withdrawal: Group IV, Group III, Group II, and Group I.

Bonds within a group may be interchanged by banks if desired, but bonds in a lower group may not be substituted for those in a higher group.

States in trust for national banks. To find on any given day exactly how many of the government bonds are up as security for bank note circulation or for deposits of public moneys the statement of the United States Treasury should be consulted. The table on page 156 shows the close of business November 5, 1909.

100. *Classification of United States bonds.*—In addition to $2,686,895 of bonds which bear no interest the table on page 158 is an exact statement of the bonds of the United States on October 31, 1909.

The consols of 1930, which constitute by far the largest issue of United States bonds, were put out to refund higher interest bearing securities sold during and after the Civil War. National banks were induced to buy the 2's not only because of their circulation privileges but because they were given a cash bonus to make the exchange.

The 4's are known as Cleveland bonds, because they were issued during Cleveland's administration. Most of the issue was taken by the famous Morgan-Belmont syndicate, creating a great deal of unfavorable criticism at the time. This syndicate, in consideration of the sale to them of the bonds (at a rather low price, about 104) agreed to find all the gold necessary to pay for the bonds, i. e., payment was to be made to the government entirely in gold. The syndicate further agreed that they would get this gold in Europe, and also that they would use their best endeavors to prevent an exportation of gold, till the reserve in the Treasury was again brought to a satisfactory figure, about $100,000,000. The gold reserve at that time was badly depleted owing to the panic the country had just gone through. In spite of the fact that most of the financial writers doubted the ability of the syndi-

STATEMENT OF THE PUBLIC DEBT

AND OF THE

CASH IN THE TREASURY OF THE UNITED STATES

FOR THE MONTH OF JANUARY, 1911.

Interest-bearing Debt.

Title of Loan.	Authorizing Act.	Rate.	When Issued.	When Redeemable.	Interest Payable.	Amount Issued.	Outstanding January 31, 1911.		
							Registered.	Coupon.	Total.
Consols of 1930	March 14, 1900	2 per cent.	1900	After April 1, 1930	J. & D., J., and A.	$646,250,150 00	$641,812,250 00	$4,437,900 00	$646,250,150 00
Loan of 1908–1918	June 13, 1898	3 per cent.	1898	After August 1, 1908	A., N., F., and M.	198,792,860 00	43,099,140 00	20,946,220 00	63,945,360 00
Loan of 1925	January 14, 1875	4 per cent.	1895–1896	After February 1, 1925	F., M., A., and N.	162,315,400 00	98,715,400 00	19,776,500 00	118,489,900 00
Panama Canal Loan:									
Series 1906	June 28, 1902, and Dec. 21, 1905.	2 per cent.	1906	After August 1, 1916	N., F., M., and A.	54,631,980 00	54,605,220 00	26,760 00	54,631,980 00
Series 1908	June 28, 1902, and Dec. 21, 1905.	2 per cent.	1908	After November 1, 1918	F., M., A., and N.	30,000,000 00	29,626,720 00	373,280 00	30,000,000 00
Aggregate of Interest-bearing Debt						1,091,990,190 00	867,856,730 00	45,460,760 00	913,317,490 00

Debt on which Interest has Ceased since Maturity.

Funded Loan of 1891, redeemed at 2 per cent, called for redemption May 18, 1900; interest ceased August 18, 1900	$7,000 00
Funded Loan of 1891, matured September 2, 1891	23,550 00
Loan of 1904, matured February 2, 1904	13,450 00
Funded Loan of 1907, matured July 2, 1907	1,023,050 00
Refunding Certificates, matured July 1, 1907	14,925 00
Old Debt matured at various dates prior to January 1, 1861, and other items of debt matured at various dates subsequent to January 1, 1861	906,025 26
Aggregate of Debt on which interest has ceased since maturity	1,988,095 26

Debt bearing no Interest.

United States Notes	February 25, 1862, July 11, 1862; March 3, 1863	$346,681,016 00
Old Demand Notes	July 17, 1861; February 12, 1862	53,282 50
National Bank Notes:		
Redemption Account	July 14, 1890	33,496,923 00
Fractional Currency	July 17, 1862; March 3, 1863; June 30, 1864; less $5,575,934 estimated as lost or destroyed, Act of June 21, 1879	6,858,433 93
Aggregate of Debt bearing no interest		387,089,662 43

Certificates and Notes issued on Deposits of Coin and Silver Bullion.

Classification.		In Circulation.	In the Treasury.	Outstanding.
Gold Certificates	March 3, 1863; July 12, 1882; March 14, 1900	$901,398,352 00	$36,371,317 00	$937,757,669 00
Silver Certificates	February 28, 1878, August 4, 1886; March 3, 1887; March 14, 1900	469,310,942 00	10,697,058 00	480,008,000 00
Treasury Notes of 1890	July 14, 1890; March 14, 1900	3,415,123 00	10,877 00	3,426,000 00
Aggregate of Certificates and Treasury Notes, offset by cash in the Treasury		1,374,112,417 00	47,074,252 00	1,421,186,669 00

RECAPITULATION.

Classification.	Jan. 31, 1911.	Dec. 31, 1910.	Increase.	Decrease.
Interest-bearing Debt	$913,317,490 00	$913,317,490 00		
Debt on which interest has ceased since maturity	1,988,095 26	1,995,045 26		$6,950 00
Debt bearing no interest	387,089,662 43	387,919,862 43		829,740 00
Aggregate of interest and noninterest bearing Debt	1,302,395,247 69	1,303,231,937 69		836,690 00
Certificates and Treasury Notes offset by an equal amount of cash in the Treasury	1,421,186,669 00	1,411,898,089 00	$9,288,000 00	

Cash in the Treasury.

Reserve Fund—				Gold Certificates	$937,757,669 00		
Gold Coin and Bullion			$150,000,000 00	Silver Certificates	480,008,000 00		
				Treasury Notes of 1890	3,426,000 00		
Trust Funds—						$1,421,186,669 00	
Gold Coin		$937,757,669 00		National Bank 5 per cent Fund	23,661,157 96		
Silver Dollars		480,008,000 00		Outstanding Checks and Warrants	13,584,385 74		
Silver Dollars of 1890		3,426,000 00		Disbursing Officers' Balances	80,479,358 53		
			1,421,186,669 00	Post-Office Department Account	9,262,804 41		
General Fund—				Miscellaneous Items	1,653,646 63		
Gold Coin	$33,895,584 49					128,644,853 27	$1,549,831,222 27
Gold Certificates	36,371,317 00			Reserve Fund		150,000,000 00	
Silver Certificates	10,697,058 00			Balance in General Fund		85,466,829 00	
Silver Dollars	10,524,211 00						235,466,829 00
Silver Bullion	3,102,480 30						
United States Notes	8,532,313 00						
Treasury Notes of 1890	10,877 00						
National Bank Notes	37,863,432 71						
Subsidiary Silver Coin	10,091,595 11						
Fractional Currency	96 55						
Minor Coin	880,763 18						
Bonds and Interest paid, awaiting reimbursement	18,495 66						
		150,978,312 00					
In National Bank Depositaries—							
To Credit of Treasurer of United States	35,748,323 10						
To Credit of United States Disbursing Officers	10,946,910 78						
		46,695,233 94					
In Treasury of Philippine Islands—							
To Credit of Treasurer of United States	3,123,817 05						
To Credit of United States Disbursing Officers	3,314,019 28						
		6,437,836 33					
			214,111,382 27				
Total			1,785,298,051 27	Total			1,785,298,051 27

Balance in the Treasury December 31, 1910, exclusive of Reserve and Trust funds	$192,393,472 14
Balance in the Treasury January 31, 1911, exclusive of Reserve and Trust funds	85,466,829 00
Decrease during the month	106,926,643 14

MEMORANDUM

Showing the amounts due the United States from Pacific Railroads on account of bonds issued in aid of their construction.

Name of Road	Principal.	Interest.	Total.
Central Branch Union Pacific	$1,600,000 00	$2,051,279 01	$3,651,279 01

The foregoing is a correct statement of the Public Debt and of the cash in the Treasury at the close of business January 31, 1911.

Treasury Department, *February 1, 1911.*

FRANKLIN MacVEAGH,
Secretary of the Treasury.

cate to prevent an exportation of gold, it was successful in doing so for a considerable period, in fact, until the worst phases of the panic were over. This was done by binding together every dealer in international exchanges, the dealers in consideration of entering into the agreement with the syndicate being given part of the bonds at a low figure. The syndicate finally fell through because a firm of coffee exporters, which had not been taken into consideration, began to deal in exchange and shipped out gold, but by that time the syndicate had served its purpose and saved a situation which looked very much like the bankruptcy of the Treasury. Although gold went out after that, the government was able to put out another loan by popular subscription and in this way get enough gold to maintain its reserve.

The Spanish War 3's of 1898 were sold by popular subscription and although the loan was for $200,000,000, the subscriptions amounted to the tremendous sum of $1,000,000,000. These bonds were issued in small denominations in order to make them popular. Bankers in Wall Street had all their clerks and friends subscribe in small amounts so as to get as many bonds together as possible, for it became the rule that the man who subscribed for $25,000 worth got nothing, whereas the one who subscribed for $100 did.

The Panama Canal 2% bonds, due in 1960, are very much like the 2% bonds due in 1930—both issues are acceptable as a basis for circulation, but the Panama bonds are subject to a taxation of only ½% when so used, whereas the other issues are taxed 1%.

101. *United States bonds as an investment.*—The individual investor cannot afford to purchase a bond which bears interest of only 2% and even the savings banks cannot place more than a fraction of their de-

posits in such a low interest bearing security. On June 30, 1909, individuals held only $98,674,996 United States bonds and these were nearly all of the 3 and 4% issues. On the same date insurance companies, trustees, associations, lodges, etc., held about $30,000,000 and the rest of the $913,000,000 with the exception of $33,745,000 owned by national banks as investments, were held in trust for the banks as security for deposits of public monies or bank note circulation. It is plain, therefore, that the chief market for United States bonds is with the national banks. Because of possible changes which may be made in the currency system of the country it is not unlikely the government will in the future be obliged to pay more than 2% on its debt in order to secure once again the support of individual investors. In fact a new issue of Panama Canal bonds was authorized in 1908 upon which the Secretary of the Treasury was authorized to pay as high as 3%.

102. *Profit in bank note circulation.*—Until radical changes are made in the bank note system of the country the chief market for United States bonds will continue to be with the national banks. It is necessary, therefore, in order to properly judge the government bond market at any given moment to understand the conditions which make it profitable for national banks to issue notes, i. e., take out circulation. It should be remembered that when a bank purchases United States bonds as a basis for circulation it receives the interest on the bonds although the bonds are actually held by the Treasury. As a rule the expenses, which include a tax on the notes, the cost of engraving and provision for extinguishing the premium if purchased above par, are not quite equal to the amount of interest and therefore a bank can usually make a small profit by pur-

chasing bonds and issuing notes against them. There are reasons, which a study of the volume on MONEY AND BANKING will make familiar, why a bank cannot invest all of its resources in bank notes. The profits on $100,000 invested in bonds at the prices prevailing in October, 1909, and with the rates for money then prevailing, are given in the following table:

VALUE OF CIRCULATION BASED ON
$100,000 U. S. Regist'd 2s 1930 @ 100⅞% Int.

MONEY AT 5%.

$100,000 2% bonds would yield		$2000 p. a.
100,000	Circulation loaned @ 5% =	5000 p. a.
		$7000.
Less tax on Circulation, ½%	500.	
Sinking Fund to retire premium on bonds, to be set aside each year and improved @ 5%.	25	
" Expenses	100.....	
		625
NET INCOME WITH CIRCULATION, ...		$6375 p. a.
NET INCOME WITHOUT CIRCULATION,		
By loaning net cost of bonds, $100875 @ 5%		5044 p. a.
	INCREASED INCOME,	$1331 p. a.

CHAPTER XIV

STATE BONDS

103. *Legal position of state bonds.*—State bonds not only constitute an important class of investments but there is no more picturesque chapter in financial history than the story of the experience of state bondholders. Under our system of government the federal government possesses only those powers which are not reserved by the states. During the early days people were particularly jealous of the rights of the states and distrustful of the federal organization. To prevent any possible encroachment upon the rights of the states an amendment to the Constitution was early passed which provides that "The judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by citizens of the same state, or by citizens of another state, or by citizens or subjects of any foreign state." This went into effect on January 8th, 1798. Since that time, therefore, all of our states have been above the law so far as the ability of the private citizen to bring suit against them is concerned. At the present time if a man secures a contract from the state and fails to receive in return for his labor or material the amount of money which he believes is due him, he cannot bring suit against the state without first of all having the legislature pass a special act giving the consent of the state to be sued. To avoid this delay a number of states have passed general acts giving the

consent of the state to be sued under certain specified conditions.

104. *States cannot be forced to pay their bonds.*—The import of this peculiar legal position of the states, for the purpose of our discussion, is that holders of state bonds are unable to collect the debt which is due them or the interest thereon, in case the state chooses to ignore their claim. We have seen that there is no law by which the bondholders of one of the leading governments of the world can successfully assert his rights against an unwilling nation. In the same way there is no means by which he can press his claim against a state. He must rely upon the good faith of the state for the security of his investment.

105. *Early history of state debts.*—The early history of state debts of our commonwealth begins even before the adoption of the constitution. There is little, however, of interest until about 1837. This year marks the culmination of the first craze for the construction of canals and railroads in this country. It is usually referred to in history as the "era of internal improvements." In the ten years succeeding 1825 there were a large number of enterprises incorporated to build canals, railroads and ordinary highways connecting the various populous centres of the country and the Atlantic seaboard with the recently developed Ohio valley. These companies presented strongly to the people the immense advantages which would follow the creation of directer and cheaper methods of transportation. Every one believed that the country would be much better off were these plans of internal improvements carried into effect. It was very difficult, however, to secure private capital for these projects without some form of guaranty, both of the security of the money and the regularity of inter-

est payments. The promoters of these projects, therefore, turned to the various state governments for aid.

Almost every state lent its credit to one or more of these enterprises. In most cases the state became partners in the ventures by taking stock of the companies and giving in exchange its bonds, which were afterwards sold by the promoters in the American or foreign money centres. The states, therefore, borrowed the money necessary for carrying out the internal improvement projects and turned it over to private companies to pay for the construction of the work. A very large part of this money was either stolen outright or frittered away. Some of it found its way into the hands of contractors who built a portion of the contemplated improvements. But even where the lines were constructed the small amount of business which was at first available made them unprofitable. As a consequence the states began to find that the income which they had anticipated from the stocks which they owned did not materialize, and that consequently there were no funds to pay the interest upon the state debts.

106. *Movement for assumption by national government.*—The experience of Maryland was typical of most of the states. This state had granted its credit to a number of enterprises, the largest of which were the Baltimore & Ohio Railroad, the Chesapeake & Ohio Canal Company and the Susquehanna Railroad Company. The Baltimore & Ohio was the only beneficiary which faithfully carried out its obligation. The Chesapeake & Ohio Canal Company, which should have paid $120,000 a year, turned in but $95,000 in 1839; the Susquehanna Railroad, from which $75,082.50 was due in 1839, had paid the $82.50, but not the $75,000. Many of the states were not so fortunate. Indiana, for example, in

the same year, had invested $7,000,000 in the Morris Canal and Banking Company and had nothing to show for the money except twenty miles of the Madison railroad, thirty miles of the Clear Water Canal and many miles of unfinished excavations and embankments, locks, aqueducts and bridges scattered over a wilderness. There is scarcely a state which was not hard pressed financially because of these investments. A national agitation was started to induce the federal government to assume the state debts. This, however, came to nothing. Most of the states, in the long run, faithfully observed their obligations, assuming their losses and paying off the bonds after a period of time. A few states repudiated all or a portion of their debts where it was conclusively shown that fraud had been practiced in the original issue of the bonds.

107. *Civil War and its consequences.*—Generally speaking, however, the experience was very satisfactory to the investor. The states had recognized their obligations even under the most adverse circumstances and had faithfully kept their promises to pay both interest and principal. After these debts were extinguished most of the states pursued a very conservative policy in reference to borrowing money. As a consequence when the Civil War broke out few of the commonwealths were heavily mortgaged. This struggle resulted in an enormous increase in state indebtedness. The northern states sold bonds liberally to raise a portion of the money necessary to carry on the war. The southern states mortgaged themselves heavily for the same purpose. When the war came to an end in 1865 the victorious north made it one of the conditions of the surrender that the southern states should repudiate whatever portion of their debts had been contracted for

the purpose of aiding the rebellion. This was faithfully done. As a consequence a very large portion of the bonds issued during the Civil War became worthless.

108. *Financial excesses of reconstruction.*—The period of reconstruction which followed the civil war brought about the creation of another series of bonds issued by the southern states. This was the time of the so-called "Carpet Bag" government. The policy pursued by the northern states towards the south was exceedingly unwise and short-sighted. Instead of turning over the administration of the states to the conservative elements of the south, the northern states, which then absolutely controlled the federal government, tried first of all, military rule and later when tranquillity was established, imposed such restrictions upon the southern states as practically to disfranchise the intelligent and responsible interests in the southern communities. A great number of unscrupulous, irresponsible politicians from the north settled in the southern states and by misrepresentation and fraud captured their governments. They plunged these states into the wildest excesses, the most lasting of which have perhaps been the financial obligations which were so unwisely created. This period was marked by the recurrence of the mania for internal improvements at state expense. Railroads were conducted which had no real economic basis, but which had been built with money borrowed on the credit of the states. Enormous issues of state bonds were put out and often sold for a small fraction of their face value. In some cases the records were so poorly kept that no one was able to tell the extent of the state's obligations. Actual fraud and theft were very general. These projects when carried out, proved in almost every case to be utterly worthless.

109. *Wholesale repudiation of state bonds.*—When the governments of the southern states were finally turned over to their own people, therefore, the financial condition of every one of them was deplorable. The State of Alabama, for example, had a debt of $30,000,000, while the total assessed value of all the property within the state was only $130,000,000. Almost every one of the southern states promptly repudiated all or a portion of its bonded debt. They turned a deaf ear to the demands of their creditors and sternly refused to have anything to do with the obligations. We can now fully understand the position of the southern people at that time. They had been through a long and exhausting war; they had been defeated and had seen their victorious fellow countrymen establish first a military government over them and later turn the control of their governments over to a lot of irresponsible politicians who had no thought for the best interests of the communities and cared for nothing except their own advancement. They had been powerless to stop the riot of extravagance and dishonesty which had prevailed. They regarded the state debts as having been dishonestly created and resented the attempt to saddle the obligations upon them.

110. *Amount of bonds repudiated.*—The amount of bonds which were repudiated is something which no one has ever been able to estimate accurately because of the incomplete data concerning the debts of many states. An estimate which is generally believed to be conservative places the amount of repudiated bonds as follows:

Alabama	$ 38,812,000
Arkansas	20,807,000
Florida	5,280,000
Georgia	13,580,000
Louisiana	32,115,000
Mississippi	22,600,000

North Carolina	48,350,000
South Carolina	19,500,000
Tennessee	29,850,000
Virginia	72,220,000
Total	$303,114,000

All of these securities have, on their face, been entitled to interest for over thirty years. At the present time, therefore, the amount which these states owe must be at least twice the sum of the original debt or over $700,000,000.

111. *Early attempts to force payment of repudiated bonds.*—The repudiation of their bonds by the southern states brought about many determined attempts to secure the collection of the claims. The courts of the state which had repudiated its debts were, of course, bound by the state law. The Supreme Court of the United States was the only tribunal open to the bondholder. The bar of the Eleventh Amendment was effectual against almost every suit. The Supreme Court refused to acknowledge the right of a bondholder who came into court as a private citizen to sue a sovereign state against its will. The failure of these attempts at direct collection led to many ingenious circumventions designed to escape the constitutional prohibition. It was evident to every one who made a study of the situation that the provisions of the Eleventh Amendment applied only to the suits of private individuals against the states. The constitution clearly stated that the "Judicial power of the United States shall extend to all cases in law and equity . . . . to which the United States shall be a party; to controversies between two or more states . . . ." The Supreme Court had jurisdiction in any case in which one state was bringing suit against another. The bondholders, therefore, concluded that if they could induce

one of the sovereign states to sue one of the repudiating states they could secure collection upon the bonds.

The first effort along this line was made in connection with the State of New Hampshire. Its legislature was induced to pass a law which provided that any owner of the bonds of a repudiating state could secure the services of the State of New Hampshire in the collection of his claim by assigning his bonds to the state and by paying to the attorney general the costs of the suit. The attorney general was directed by the law to then bring suit, in the name of the State of New Hampshire, against the state which was repudiating its obligations and if the suit was successful he was instructed to pay the amount which he recovered, less all expenses, to the private citizen in whose behalf he was really acting. A number of bondholders promptly took advantage of the law and turned over for collection to New Hampshire a large amount of the bonds of the State of Louisana. Suit was immediately begun in the United States Supreme Court. The court, however, took the ground that the law of New Hampshire was an open attempt to evade the provisions of the constitution, for New Hampshire really did not have title to the bonds upon which she was endeavoring to collect, but was merely working as an agent for private individuals who were themselves debarred from bringing suit. The suit, therefore, was ineffectual.

Many of the southern states soon after this began making propositions for the settlement of the claims, which generally involved the payment of a certain percentage of the state debt and of the accrued interest thereon. Some of these offers were accepted; others were refused.

112. *A single successful attempt.*—The only case

where an attempt to collect against repudiating states has been successful occurred in 1904. An enterprising broker in New York bought up, at a nominal figure, a large amount of the repudiated bonds of the State of North Carolina. After negotiating for some time he finally secured the passage of a law by the State of South Dakota which, in effect, instructed the governor to accept any gift or bequest which might be offered to him for the use of the state university, its public schools or its charities, and directing him, when any dispute might arise concerning these gifts, to bring suit in the name of the state for the enforcement of the claims to which the commonwealth had fallen heir. The purpose of this unusual law is apparent on its face. The enterprising broker, named Schafer, promptly tendered $10,000 of repudiated North Carolina bonds to the state under the provisions of this law. South Dakota thereupon began suit in the United States Supreme Court against North Carolina for the enforcement of the claim. This controversy differed from the New Hampshire case in that the bonds had been given to the state without any string to them; they were the absolute property of South Dakota and anything which was received for them would go to the state. This, in other words, was a "controversy between two states" within the meaning of the constitution. The Supreme Court promptly took jurisdiction and the case was tried at length. Unlike the other suits the plaintiff was successful and South Dakota secured a verdict for $27,400 against North Carolina.

113. *The case is not typical.*—It is very doubtful whether the Supreme Court would have taken this stand had not the conditions under which the bonds were issued been peculiar. The Supreme Court has always

been very careful never to give a decree or a judgment where it had no power to enforce its ruling. Under the conditions ordinarily surrounding state bond issues the Supreme Court might have announced its decision, but if North Carolina had not chosen to recognize the court's ruling there would have been no way by which the judgment could have been enforced. The law would not allow the court to seize the property of private individuals within the state for the satisfaction of the state's debt. It is doubtful whether the court would go far enough to seize even state property such as the capitol building for the satisfaction of the claim. Under our theory of law states are regarded as sovereign and hence above the ordinary processes of law. Their real property is not subject to seizure and they pay because they desire to do so rather than because they can be forced to recognize their obligations. The bonds in controversy differed from the ordinary state obligations, which are generally plain promises to pay issued by the state, in that they were really collateral trust bonds of the state secured by a deposit of the stock of the North Carolina Railroad Company, for whose benefit they were issued. The Supreme Court seized upon this situation as a method of enforcing its judgment and in its decree provided that if the State of North Carolina did not pay $27,400 to the State of North Dakota on or before January 1, 1905, that the United States Marshall should sell at public auction upon the steps of the national capitol in Washington, after six weeks public notice, the capital stock of the North Carolina Railroad Company, which was at that time the property of the State of North Carolina. The court, in other words, could thus enforce its decision, although it could not actually collect from the state.

It is interesting to note that Schafer's ingenious evasion of the law must have been profitable, for the State of North Carolina not only paid the judgment to the State of South Dakota, but, in order to avoid being placed in an inconsistent position, settled with the remaining holders of this particular class of unfunded bonds by giving them $250,000 of new securities in payment. It is of course impossible to say what the Supreme Court might do if some other state should imitate South Dakota's example or if the latter should again try the same method of helping her public institutions. It is generally believed, however, that the Supreme Court would hesitate to enforce the payment of an ordinary bond where no assurance of collection was at hand.

Little by little the southern states are cleaning up the old indebtedness. Compromises have been made in the large number of cases and most of the old debts are in process of adjustment except where the states believe the bonds were fraudulently issued. In many cases certain classes of bonds have been specifically outlawed by clauses inserted in the state constitution forbidding the legislature to recognize the claims.

114. *Provisions in state constitutions limiting indebtedness.*—The unfortunate experience through which the country has passed as a result of the wholesale repudiation of state debts has led to the general insertion of provisions in state constitutions limiting the amount of bonds which can be issued. Some of the southern states, as, for example, Virginia, Tennessee, North Carolina and Mississippi, have no limitation upon the amount of their debt. Other states, such as South Carolina, have covered the point by forbidding any increase in the state debt without the question having first been

submitted and approved at a general election. Georgia has gone to the limit by absolutely forbidding an increase except for the purpose of repelling an invasion or suppressing a rebellion. Alabama has adopted the Georgian plan except that the state is allowed to incur a debt not exceeding $300,000 to meet current deficiencies. Even the northern states have taken very much the same position. Ohio, for example, has limited its debt to $750,000 except when created to repel invasion and put down rebellion. Illinois has a similar provision, except that the ordinary debt limit is $250,000. A very large percentage of the northern states have inserted clauses in their constitutions forbidding the state to assume municipal or county debts, to loan its credit to any individual or corporation or to become a stockholder or a partner in any venture. These clauses are inserted because the people feel that they need to be protected against themselves and that their chosen representatives sent to the legislature cannot be fully trusted with the right to authorize the state to borrow money and issue its bonds in exchange for the funds thus received.

115. *Recent changes.*—This aversion to state debts, however, seems to be weakening. There is no reason why the credit of the states should not be as good as that of any government if borrowing is done wisely and conservatively. Repudiation was caused by reckless extravagance and folly in borrowing money for enterprises which were inevitable failures. Since the Civil War most of the states have refrained from borrowing, chiefly because there was little need of securing funds in this manner. But within recent years business conditions have considerably changed. At the present time there is a strong demand in several sections of the country for

conducting improvements through use of the state's credit. New York, for example, finding that the Erie Canal was becoming antiquated and too small to handle the vessels which could be most economically used, authorized in 1903 an issue of bonds up to $101,000,000 for the improvement of the canal system. In 1905 the state again adopted a constitutional amendment giving authority to create an aggregate debt of $50,000,000 for highway improvements. All of these bonds have not been issued. The constitutional provisions of New York seem to be very wise in that they have not hampered the development of the state and yet have provided an adequate check upon unwise borrowing. The constitution provides that no debts in excess of $1,000,000 to meet current deficiencies in revenue, or to repel invasion or put down insurrection, shall be created unless authorized by law, as follows:

> Such law shall impose and provide for the collection of a direct annual tax to pay, and sufficient to pay, the interest on such debt as it falls due, and also to pay and discharge the principal of such debt within fifty years from the time of the contracting thereof. No such law shall take effect until it shall, at a general election, have been submitted to the people and have received a majority of all the votes cast for and against it at such election. On the final passage of such bill in either house of the Legislature, the question shall be taken by ayes and nays, to be duly entered on the journals thereof, and shall be: "Shall this bill pass, and ought the same to receive the sanction of the people?" The Legislature may at any time, after the passage thereof, but before the issue of bonds thereunder, repeal the same; and may, at any time, by law, forbid the contracting of any further debt or liability under such law; but the tax imposed by such Act, in proportion to the debt and liability which may have been contracted in pursuance of such law, shall

remain in force and be irrepealable, and be annually collected, until the proceeds thereof shall have made the provisions herein before specified to pay and discharge the interest and principal of such debt and liability. The money arising from the bond or stock creating such debt or liability, shall be applied to the work or object specified in the Act authorizing such debt or liability, or for the payment of such debt or liability and for no other purpose whatever. No such law shall be submitted to be voted on, within three months after its passage, or at any general election, when any other law, or any bill, shall be submitted to be voted for or against. The Legislature may provide for the issue of bonds of the state to run for a period of not exceeding fifty years in lieu of bonds heretofore authorized but not issued, and shall impose and provide for the collection of a direct annual tax for the payment of the same as hereinbefore required. When any sinking fund created under this section shall equal in amount the debt by which it was created, no further direct tax shall be levied on account of said sinking fund and the Legislature shall reduce the tax to an amount equal to the accruing interest on such debt."

116. *Sinking fund.*—The various states, in addition to limiting the amount of their indebtedness, provide for its retirement. This is usually done through a sinking fund. The operation and nature of a sinking fund have been explained in detail in the volume on Corporation Finance. It is, you will remember, a scheme by which a certain sum is set aside each year until a sufficient amount is secured to retire the principal. It may be that the sums are directly invested in the bonds themselves, the state thus gradually paying back its own debt.

Mr. C. M. Keys, in an article published in the *Annals of the American Academy of Political and Social Science,* September, 1907, gives an accurate summary of the sinking fund provisions used by various states which

have a considerable amount of bonds outstanding. In making this selection he has picked out only those provisions which are distinctive:

Arkansas.—Since 1899, an annual tax of one mill on the dollar has been levied against taxable property to provide a "general sinking fund" out of which all obligations are to be met.

California.—The San Francisco depot fund consists of monthly payments of $4,631 made by the harbor commissioners out of collections, to be used to pay interest on the harbor improvement loan and to retire it at maturity. This fund is invested in United States bonds—a very wasteful investment.

Colorado.—The capitol, casual deficiency, Cripple Creek insurrection and Leadville riot bonds are to be retired by a sinking fund based on taxes to be levied some years after the date of the bonds, sufficient to create an annual fund amounting to 20 per cent of the issues.

District of Columbia.—It is noted above that there are no sinking funds on hand. By an act of 1878, the commissioners were abolished, and the Treasurer of the United States took command. He has construed the law to mean that he can buy with the funds any of the bonds of the District and cancel them. Therefore the fund disappears as it is created.

Florida.—Sinking funds are made for the 1871 and 1873 bonds, based on the annual taxes for interest and per cent of the principal of the 1871 bonds and an annual tax of one mill on the dollar for the 1873 issue. In 1901 the bonds of 1871 in the fund were cancelled and the cash in the fund transferred to the general revenue of the state.

Georgia.—The constitution of Georgia requires the assembly to raise $100,000 per annum for sinking funds, but it does not appear that the constitution has been respected to any great extent.

Kentucky.—The sinking fund in Kentucky is derived from a tax of five cents per $100 of taxable property and the income from some stock investments. In this state, as in others, the

"general fund" appears to be able to make an occasional overdraft on the sinking funds.

Massachusetts.—Sinking funds in this state are very numerous. In general, they start with the deposit of the premium over par received for the state bonds when sold. In the case of bonds issued to aid railroads, the fund is usually based on an annual payment to the state by the railroad. In 1867, a state issue to assist the Boston, Hartford and Erie Road was provided for by a charge of $50,000 per annum against the road, supplemented by an additional charge of $20,000 against a new bond issue in 1869. By 1890 this fund had grown so big that it was sufficient to retire the bonds at maturity. It was, therefore, diverted to help meet other sinking fund provisions from time to time. The principal funds of the state are as follows: The bounty loan sinking fund; coast defence sinking fund; Boston, Hartford and Erie sinking fund; Troy and Greenfield sinking fund, closed and specified bonds paid; prison and hospital loan sinking fund; statehood loan sinking fund; Fitchburg Railroad securities sinking fund; harbor improvement loan sinking fund; and Massachusetts war loan sinking fund, alive and in operation at the date of the government report.

Minnesota.—The sinking funds of Minnesota are of two classes, the first being raised by taxation and the second from proceeds of the public lands set aside by the legislature to meet the old debt of the state.

Montana.—There are six sinking funds in Montana, all derived from the proceeds of land grants made to the state by Congress.

New Jersey.—The small state debt of New Jersey is amply provided for, the sinking funds being greater than the entire debt in every year since 1897. A unique provision in this state is that the treasury may be called upon to make up a deficiency in the sinking fund, the same to be paid back as the funds come in.

New York.—All the bonds issued by New York State between 1890 and 1902 were serial bonds, and therefore needed

no sinking funds, except the canal bonds. The sinking funds therefore consist of a part of the canal fund of the state.

Ohio.—The constitution requires an annual sinking fund of $100,000, to be gathered from the sale of lands, public works or stocks owned by the state, from the income earned by the profit-producing public works and the stocks owned, and from a tax to be levied to make up any deficiency left by the above sources of revenue.

It will be noted that there is no great uniformity in the maintenance and operation of these state funds. Nor does the amount of the funds at a certain date have much meaning, because such amount is made up only from the cash or bonds or stocks held alive in the fund. In cases where the sinking funds are immediately invested and the bonds canceled, the amortization of the debt goes on, but the government report does not show it. This process is followed to some extent in nearly every state, and many of the states that are reported by the government to be without sinking funds are steadily reducing their debts by cancelation.

117. *Growing importance of the question.*—Many of the western states find their development hampered because of insufficient rainfall over a large portion of their area. The people of these communities recognize that the ills which follow the lack of moisture could be eliminated by the introduction of irrigation works which would turn deserts into gardens and would enormously increase the material wealth of their communities. These public improvements can be secured in one of three ways. The first is by granting the necessary privileges to private corporations which would construct the works and charge the people such rates as they may decide upon. The creation of this monopoly is in many cases distasteful to these communities. The second method is to

allow the federal government to construct the works. The demands which are made upon the government far exceed the amount of money which is available and as a consequence it is likely that long and vexatious delays would be incurred in securing the construction of the works. The third and most direct and satisfactory method would be to have the states themselves undertake the work, paying the cost out of the proceeds of bond sales and charging sufficient toll for the water supplied to provide for the interest and the sinking fund requirements of the bonds. It is likely that in the next few years many of the western states will appear in the money markets as borrowers for this purpose.

118. *Summary.*—Let us sum up the position of the holder of state bonds. Except in a very few cases the amount of the state debt bears an insignificant ratio to the value of the properties within its boundaries. The income of the state is usually more than sufficient to pay the interest upon its bonds, to meet the sinking fund requirements and to defray the ordinary running expenses of the government. Where the income is insufficient, the population of the state is sufficiently prosperous to bear, without being overburdened, such additional taxation as might be necessary to raise the required sum.

Judged from the standards which we applied to government bonds, therefore, these securities are exceedingly desirable. The weakness of state bonds, like the weakness of government bonds, is the lack of any legal process by which a creditor can enforce his claim. He cannot sue the state without its consent and if the state desires to repudiate he is absolutely helpless. Many eminent authorities have urged that the states stand in their own light by leaving this loophole through which

they can escape their obligations. They urge that it would be much better for the states to agree to an amendment to the federal constitution providing for a method of collection. This would immensely increase their credit and enable them to borrow much larger sums than can now be secured and upon much more advantageous terms than are now offered.

It is generally believed, however, that in the case of the state debts which are recognized at the present time there is little or no likelihood of repudiation. The standards of commercial honor are constantly rising. The percentage of the population which recognizes the advisability of keeping faith with creditors is increasing and the motives, therefore, which would lead to repudiation have been reduced. The securities of those states, like New York, which have never repudiated their obligations find a ready sale at interest rates ranging between 3% and 4%. Even many of the states which have repudiated their bonds in previous years now enjoy very high credit. As the law stands to-day, however, the buyer of state bonds must take the chance of repudiation, however slight it may be, for he has no legal way by which he can force a state to pay its bonds if it does not care to keep faith with him.

CHAPTER XV

MUNICIPAL BONDS

119. *Position of the municipality in our governmental system.*—The third class of public securities is issued by various political subdivisions of the state such as cities, townships and school districts. The most of these bonds are issued by the larger cities to procure money to carry on many improvements demanded by their citizens. Bonds issued by cities are known as municipal bonds.

The cities, townships and school districts are political subdivisions of the state created for the better administration of local affairs. The states, under our theory of government, are supreme in all things except those which have been specifically delegated to the federal government. There is this difference between the legal position of the state, which cannot be sued without its consent, and the municipal subdivisions which it creates, such as the city, township and county. These subdivisions have no inherent rights. They are created by the state and exist just so long as it suits the state; their powers can be changed at any time. In short they are in the absolute power of the state and must look to it for authority to carry through any project.

120. *Municipalities have limited powers.*—Since the powers of the municipal corporations are entirely delegated, it is necessary in each case to ascertain the extent of the grant made by the state. As a general rule a municipal corporation is on the same basis as a private

corporation in that it is organized under a charter granted to it by a special act passed by the State Legislature, or under the authority of some general act which provides for the incorporation of this class of corporations. The legislation granting the charter defines the power of the muncipality. It is a universal rule that municipalities can exercise only three kinds of powers:

First—those granted in express words.

Second—those necessarily or fairly implied in, or incident to, the express powers.

Third—those essential to the declared objects and purposes of the corporation.

All acts that are performed outside of the scope covered by these three heads are null and void. It is sometimes a very nice question of law to determine whether any particular act comes within this classification. The tendency of the courts is, however, to grow more liberal in this particular where it can be shown that the act results in benefit to the municipality.

121. *State control of municipal indebtedness.*—The greatest measure of control which the state exercises over the municipality concerns its right to borrow money. The painful experience through which the states passed in their misdirected efforts to aid internal improvements was shared in by many cities, counties and towns. These municipalities mortgaged themselves heavily to aid worthless corporations. The experience left an indelible impression upon the minds of our people which finds expression in nearly every state constitution. We find that there is now a limit placed upon the amount of money which municipal corporations can borrow and regulations concerning the ways in which this money can be distributed. In this par-

ticular the position of the public corporation, or one chartered by the state for the purpose of government, differs materially from that of the private corporation. The private corporation can borrow as much money as it desires. The state assumes that the personal interest of the proprietors or stockholders will prevent them from overburdening the company with liabilities, and that in the second place the self interest of the lenders will act as a check upon the unwise lending of money to this class of corporation.

The law restricts the borrowing of school districts, townships and municipalities for two reasons. In the first place while a stockholder in a corporation exercises a reasonable amount of interest and concern in its welfare, he is inclined to be neglectful of his duty to his city or town. He may defeat a proposition to borrow money by a corporation in which he holds an interest, but he will assist the city to make unwise loans either by a direct vote or by neglecting to vote at all upon loan propositions. In the second place the check over reckless borrowing exerted by the prudence of the lender in the case of the private company is here absent. The debts of our municipalities bear such a small proportion to the value of the property within their limits that the investor rarely has cause to worry concerning the relation of his loan to the assets of his debtor.

122. *Methods of control.*—The States exercise two methods of control over borrowing by their political subdivisions. The first is by direct supervision. This is little used at the present time. Under this method it is necessary for a municipality, in order to make a valid bond issue, first to secure the consent of certain state officials who are charged with the duty of seeing

that the law is enforced. For example, Georgia, in 1897, passed an act, which is usually referred to as the Municipal Bond Law. This statute provides that all proposed bond issues to be put out by counties, municipalities and other civil divisions of the state must first be submitted to the Superior Court for judicial investigation and approval. If the court refuses to sanction the loan, the bonds cannot be issued. If the approval of the court is secured the validity of the bonds can never be questioned at a subsequent time. Under this statute, which is typical of that in force in the other states where this system is followed, it is the duty of the judges to investigate the issue and to see whether all of the requirements of the law have been complied with. The court sets a date for the hearing. Public notice is given by publication in the newspapers of the time of the hearing. Any citizen may appear at that time and contest the proposed validation. In any event, however, the court is forced by the law to make a complete and full investigation.

The advantage of this method of control is that the question of the legality of the issue is definitely settled before the bonds must be paid for. The buyer, therefore, does not have to reckon with the possibility of the issue being repudiated at some future time because of a defect or irregularity.

The second, and more generally used system is that of indirect control. The state definition of the conditions under which the municipality can issue bonds becomes in theory a public notice to all people who would lend money to the corporation. They must be careful to ascertain that the municipality has complied with all of these conditions before advancing the funds. In case they do not satisfy themselves of the entire legality

of the matter, or if they make an error in their investigation, they must suffer the loss, for the municipality can repudiate the bonds or any taxpayer can go into the court and have the city treasurer enjoined from paying the principal or interest of the bonds which have been irregularly issued.

The municipality therefore is placed very much in the same position as the minor who is considered unable to protect himself in a business transaction and who therefore is treated as irresponsible and not liable for anything except in certain well defined relations.

123. *Indirect control.*—The indirect control of municipal indebtedness is usually accomplished in two ways. First, by a statement of the conditions under which the municipality can borrow money in the State constitution or second, through the terms of an act passed by the State Legislature. Both methods are quite generally used. The tendency is to make these regulations constantly more detailed and to restrict more narrowly the powers of the various political subdivisions in this respect. One of the most complete systems of regulation of municipal debt is that in force in Massachusetts. The restrictions are as follows:

Section 1. Cities and towns shall not incur debts, except in the manner of voting and within the limitations as to amount and time of payment prescribed in this chapter.

Section 2. The indebtedness of a city or town under the provisions of this chapter not inconsistent herewith shall be its net indebtedness, but debts created in aid of railroad corporations, except as herein otherwise provided, and water scrip, issued by a town under special statutes for the indebtedness of a fire district, and all other debts excepted by general or special statutes shall be excluded.

Section 3. A city shall not become indebted in an amount

exceeding 2½ per cent on the average of the assessors' valuations of the taxable property therein for the three preceding years, the valuation of each year being first reduced by the amount of all abatements allowed thereon previous to the last day of December in the years preceding said assessment.

Section 5. A city or town which establishes, purchases, reconstructs, extends or enlarges a gas or electric lighting plant within its limits may incur debt outside the debt limit not exceeding, in a town, 5 per cent and in a city not exceeding 2½ per cent of the last preceding state valuation.

Section 6. Cities and towns may by a majority vote incur debts for temporary loans in anticipation of the taxes of the municipal year in which such debts are incurred, and expressly made payable therefrom by such vote. Such loans shall be payable within one year after the date of their incurrence, and shall not be reckoned in determining the authorized limit of indebtedness.

Section 8. Debts other than those mentioned in the preceding sections shall be incurred only by a vote of two-thirds of the voters present and voting at a town meeting, or of two-thirds of all the members of each branch of the city council taken by yeas and nays, and subject to the approval or disapproval of the mayor.

Section 9. A city or town which has incurred a debt within the limitations as to amount and time of payment prescribed by this chapter may issue bonds, notes, or scrip therefor, properly denominated on the face thereof, signed by its treasurer, and, if issued by a city, countersigned by its mayor, or if issued by a town, countersigned by a majority select men, with interest payable semi-annually at such rate as it deems proper, and may sell said bonds, notes or scrip, for not less than par, at public or private sale, or may use the same in payment of such debts.

Section 12. The interest on all debts shall annually be raised by taxation. If a debt is payable at a period exceeding ten years, the city or town shall, and in all other cases may, at the time of contracting the same, establish a sinking fund to be

used for no other purpose than the payment of such debt, and shall annually raise by taxation and contribute thereto an amount sufficient with its accumulations to extinguish the debt at maturity; and if payable at a period not exceeding ten years, the city or town shall raise by taxation annually not less than 8 per cent of the principal thereof, and shall set it apart for a sinking fund until an amount has been raised sufficient, with its accumulations, to extinguish the debt at maturity; and shall, in the year before the maturity of the debt, raise by taxation, any balance necessary for its extinguishment.

Section 23. No city or town shall, for the purpose of subscribing in aid of a railroad corporation, increase its indebtedness to an amount which with its existing net indebtedness incurred for any purpose, excluding temporary loans, exceeds 3 per cent of the valuation of the taxable property therein as ascertained by the last preceding city or town valuation for the assessment of taxes.

Certain of the provisions of the Massachusetts law require a word of explanation. The first concerns the term "net indebtedness" which is frequently used. There are several methods in vogue of determining the net indebtedness. The first is to deduct from the amount of the bonded debt outstanding, the amount which at that time has accumulated in the sinking fund. The balance gives the "net" debt or the amount which is really owing by the city to its long time creditors.

124. *Elimination of certain classes of debts.*—The second method goes farther and provides for the reduction, in addition to the sinking fund, of an amount covered by the tangible and productive assets. This, for example, would include all of the money invested in a gas plant if the plant was earning an amount sufficient to pay the interest on the bonds issued to cover its cost. In the same way bonds issued to construct or improve water works are very frequently excepted

in calculating the relation which the city's indebtedness bears to the legal limit. Another illustration is furnished by New York City, which in 1908 induced the Legislature to propose a constitutional amendment, allowing the city to exclude in making this calculation all bonds issued for existing and any future subways, or for any public improvement which provides a revenue in excess of the interest and amortization charges. This amendment was submitted to the voters in November, 1909 and passed.

The basis for this class of deduction is founded on the theory that these investments, being productive, should not really be charged as a debt upon the tax paying community. If the proceeds of a series of bonds are so invested as to earn a sufficient amount to carry their own fixed charges and to extinguish themselves through the regular operation of the sinking fund, this portion of the debt is really of no significance in determining the ability of the city to meet its financial requirements.

The question is constantly being discussed, whether the non-productive enterprises such as the construction of sewers, park improvements or dozens of other similar causes of heavy municipal expenditures do not add indirectly as much to the value of the taxable property of the city as do the direct improvements. This limit upon the borrowing power, however, is placed upon the city chiefly for the purpose of making sure that the taxation will not have to be raised to an excessive point in order to provide sufficient revenue to meet the city's obligations.

The provision of the Massachusetts act requiring the approval of every loan by a popular vote is practically universal at the present time. This requirement is

based upon the theory that the city cannot trust its officers to borrow the money, and that a popular election is necessary as a check against placing foolish mortgages upon the city's income.

The second section of the act is perhaps the most important to the holders of the bonds. It provides the method by which the interest and the sinking fund are to be secured. This in reality is the real security of the bondholders. The city is obliged to raise money to pay interest and it is also obliged to raise money to create a sinking fund. A sinking fund, as explained in CORPORATION FINANCE, is a device by which through annual contributions a fund may be accumulated in one of several ways, sufficient in amount to retire the bonded debt of the corporation by the time of its maturity. If a city should fail to levy a sufficient amount of taxes to keep up its sinking fund obligation any bondholder or citizen can go into court and secure a mandamus forcing the city to levy a tax to raise sufficient money to comply with the provisions of the law.

125. *Restrictions vary in different states.*—It is unfortunate for the investor that the restrictions on municipal bond issues in the various states are not identical. It will be found that the states in the west are much less strict in regulating the municipalities and do not provide such a narrow debt limit. The type of the Western regulation is illustrated by the provisions in Kansas. The state constitution declares that, "Provisions shall be made by general law for the organization of cities, towns and villages; and their power of taxation, assessment, borrowing money, contracting debts and loaning their credit shall be so restricted as to prevent the abuse of such power." The legislature has carried out the obligation imposed by the state con-

stitution by passing a great mass of legislation making necessary an extended search in order to judge of the legality of any particular issue. The act of 1909, for example, provides that cities of the first class having a population of 50,000 or more shall not create a debt exceeding five per cent, of the assessed value of taxable property—special improvement and sewer bonds to be considered outside this limit. The act further provides that the total bonded debt, including special improvement bonds shall not exceed ten per cent, of the assessed value.

This type of regulation, which is likely to be constantly changed by the legislature, is not favored by bankers and investors. Of course, no subsequent law could be made to work hardship upon the holders of bonds previously issued, nevertheless the instability and complexity of legislation requires unusual care and diligence from all concerned.

Most states specifically provide either in their constitution or by legislation that the state is not to be bound by the debts of the municipalities. The provision of the Pennsylvania constitution covering this point will serve as an illustration:

"The Commonwealth shall not assume the debt, or any part thereof, of any city, county, borough or township, unless such debt shall have been contracted to enable the State to repel invasion, suppress domestic insurrection, defend itself in time of war, or to assist the State in the discharge of any portion of its present indebtedness."

126. *Effect of restrictions.*—The effect of these rigid restrictions is very fortunate from the standpoint of the city. From the standpoint of the buyers of bonds it leaves much to be desired. The law universally

holds that where the city has exceeded the limitation in the amount of debt or has failed to follow carefully the procedure laid down by law, the bonds thus irregularly issued shall be invalid. As a consequence the buyers of municipal bonds must exercise extreme care to ascertain that their issue has been regular. In the case of a private corporation the investor has little or nothing to do with the internal regulations of the corporation. A private corporation is authorized to borrow money pledging its real and personal property as security for the debt. The by-laws of the corporation may provide all sorts of restrictions upon the issue of obligations but the bondholder need have little concern about them. In the case of the municipality the customer is chargeable with knowledge of the legal limitations under which these bonds must be issued. Therefore if he buys municipal bonds he buys them at his own risk and he cannot consider himself safe unless he is satisfied of the legality of the issue of the bonds.

An illustration of the sort of difficulty which sometimes arises is furnished by the bonds issued by the city of Troy in 1905. The entire issue of $59,000 was purchased by a firm of New York bankers. After the award had been made the banking firm refused to take the bonds, upon the advice of counsel, on the ground that an irregularity had occurred. They pointed to a clause in the law which states that

> The common council may, by and with the advice and consent of the Board of Estimate and Apportionment, fix and determine the amount and proportion of the expense which shall be borne by the city at large for opening, altering, grading, curbing or paving a street, or for constructing a public sewer. Such amount may be raised by the City by the issuing of its bonds in accordance with the provisions of Section 26 of this act, as

shall be determined by the Board of Estimate and Apportionment.

The difficulty concerned the opening of three streets which were among the improvements for which the bonds were to be issued. At the time the bonds were sold the Common Council had not fixed and determined the amount which should be apportioned for this purpose nor had it calculated the share of the cost of opening the streets which the city was to bear. The ordinance apportioning the cost had been prepared but had not been passed. As a consequence this slight flaw was held by the counsel of the banking house to make the entire issue irregular, though the ordinance might have passed at a later time.

127. *Opinions concerning legality of the issue.*—Every bond house, before actually settling for bonds, secures the opinion of one or more eminent lawyers concerning the legality and validity of the issue. Usually the most prominent lawyers in the community are retained for this work. If they find anything questionable the entire transaction is checked. This lengthy and elaborate investigation is so cumbersome and expensive that many suggestions have been made for expediting and simplifying the issues of municipal bonds. One of these recommends that the Attorney General of the state shall be required by law to make this legal investigation of every municipal bond issue. His approval would then be endorsed on the face of every bond which was issued by a city, county, township or school district. If this were done the municipal subdivisions would be stopped from later denying the validity of the obligation.

128. *Who buys municipal bonds?*—Municipal bonds are very seldom sold direct to the people who finally

purchase them for investment. They are almost universally sold by the city to private bankers who later dispose of them to their customers. There have been numerous attempts to sell municipal bonds directly to the public but the efforts have rarely been very successful. The first disadvantage of a direct sale of bonds is the large added expense due to the extra book-keeping necessitated by selling bonds in small lots. The second difficulty arises from the fact that a large proportion of the buyers put up a small percentage of the price at the time, hoping to sell the bonds at higher prices. If their hopes are not realized the city is likely to find that they will forfeit the deposit and fail to take the bonds. As a consequence the issues are usually sold in large blocks to one or more bond houses who are the highest bidders.

129. *The bond houses' tests.*—The tests which a bond house applies to any particular issue which may be offered can be grouped under the following heads:

1. The legality of the bond.
2. The financial condition of the city.
3. The standing of the city.
4. The supply and demand for the bonds.
5. The yield on the bonds.

The first consideration is the legality of the issue. The distinguished counsel to whom this question is referred furnishes a statement to the bond house. He passes upon the legality of the bonds after having collected and examined information concerning the following matters:

1. Authorization
   (a) Is the city permitted by its charter to issue the bonds?

(b) Have the legal steps been properly taken by the city, such as the passage of an ordinance by council and its approval by the chief magistrate?

(c) Have the bonds been properly authorized at a municipal election?

(d) Has the sale of the bonds been properly advertised, fulfilling every requirement?

(e) Have the bids been kept secret and has the award been made to the highest bidder?

2. Is the amount of the issue within the limits set by statute?

3. Is the form of the instrument such that the city cannot escape responsibility by any technicality or slip in the wording of the instrument?

4. Have the present bonds, or any bonds which it is proposed by the city to refund, ever been subject to litigation? Did the city ever seek to repudiate its obligations?

In determining the legality of the issue one of the most important questions which must be considered is the financial position of the city. The limit on the amount of bonds which the city can issue is usually proportioned to the assessed valuation of the real property contained within its boundaries. The question of the total assessment therefore and the legality of the method by which it was made must be investigated. In most cities the assessments on real property are usually below its actual value. The relation of the bonded debt to the assessments in 1908 in our larger cities is shown by the following table:

Cities	Bonded Debt	Water Debt	Sinking Fund	Estimated Population	Bonded Debt Per Capita
New York	$928,628,345	$66,443,701	$198,462,063	4,422,685	$165.09
Chicago	25,958,000	3,520,000	3,642,919	2,137,000	10.44
Philadelphia ...	84,921,720		8,077,800	1,500,000	51.22
St. Louis	19,427,178	4,500,000	310,860	751,112	25.45
Boston	108,484,606	4,253,000	35,918,414	618,310	117.36
Baltimore	46,756,283	8,914,000	17,519,484	543,034	53.84
San Francisco ..	6,729,100		244,800	487,500	13.30
Detroit	8,794,000	940,000	2,650,989	400,000	15.35
Cleveland	30,309,261	5,091,000	2,200,065	500,000	56.21
Buffalo	21,236,342	5,621,632	2,392,828	400,000	47.11
Milwaukee	9,736,250	141,250	829,250	365,000	24.40
Cincinnati	47,143,743	10,894,300	6,665,552	473,070	85.56
Pittsburg	34,884,040	10,577,200	11,347,376	564,322	41.70

130. *Investors need not worry about city's income.*—An investor in the securities of municipal corporations, unlike those who put their money into private corporations, does not have to give much concern to the income of the city. The buyer of a railroad bond, for example, would make a careful study in order to assure himself that the railroad will at all times earn a sufficient amount to pay the interest on its total indebtedness. This question in the case of a municipality is not very pressing. The income of the city is reasonably steady. It is not affected by financial depressions, for the taxes are the same in good years as in bad years. Moreover, the amount of tax which shall be levied is an arbitrary matter which can be changed from time to time. If a certain tax rate—say for example $1.50 per $100—is not sufficient to produce the amount of revenue necessary to conduct the city government and meet its financial obligations, the city authorities have the power to increase the tax rate to such an amount as will give them the necessary revenue. In fact we have seen that a failure on their part to do so would immediately give an interested party the right to force them through the intervention of the courts, to raise a sufficient sum of money.

131. *Bondholders' remedies.*—The bonds of a municipality are really a first mortgage upon all the realty within its limits. There has never been a case where bondholders have been forced to seize the property and sell it in order to collect their claims. They can, however, force the city to raise a sufficient amount of money to pay the interest upon the obligations and retire them slowly through the operation of the sinking fund. The real estate of the community therefore is directly responsible for the bonded debt of the city because looked to for the contribution of a sufficient sum in the shape of taxes to meet the city's obligations.

Cities	Assessment of Real Estate and Improvements.	Percentage of Assessment to to value.	Estimated Actual Value of Real Estate and Improvements.	Total Bonded Debt.	Percentage of debt to value of real estate.
New York	$6,722,415,789	89	$7,553,276,167	$928,628,345	12
Chicago	344,499,953	20	1,722,499,765	25,958,000	1
Philadelphia ..	1,315,269,657	85	1,547,376,067	84,921,720	5
St. Louis	435,987,460	65	670,749,932	19,427,178	2
Boston	1,082,405,300	100	1,082,405,300	108,484,606	9
Pittsburg	698,701,156	85	822,000,000	34,884,040	4
San Francisco.	349,511,992	60	582,519,986	6,729,100	1
Baltimore	325,723,818	100	325,723,818	46,756,283	14
Cincinnati	192,392,530	60	320,654,200	47,143,743	15
Detroit	241,373,710	80	301,717,137	8,794,000	2
Cleveland	184,165,470	40	460,413,675	30,309,261	7
Buffalo	269,469,620	100	269,469,620	21,236,342	8

132. *Effect of repudiation upon city's credit.*—The next concern is whether there has ever been repudiation by the city or municipality which is issuing the bonds. Inquiry is made to ascertain whether the city has ever defaulted in the payment of any previous obligation. This matter is usually covered in the legal opinion, for such default would be a matter of record. If the town has ever repudiated or attempted to evade

its debt, it secures a bad reputation and usually cannot find a bidder for future issues. A municipal corporation, very much like an individual, is judged by the company it keeps and a city situated in a region where personal and official obligations are held in slight regard is apt to suffer financially when it wishes to issue bonds. In this connection it is well to inquire whether the state laws favor the creditor or the debtor. Western cities have suffered in their credit from the laxity of their collection legislation which makes it difficult in many cases for the debtors to collect their claims.

The distance of the city from the investing centers is another factor affecting its credit. This has, of course, no connection with its financial honesty. It is a fact, however, that most men prefer to invest their money near home and when they invest in a distant locality they seek extra compensation through higher interest rates.

133. *State of the market and the rate of interest.*— The next thing to affect the salability of the bonds is the state of the bond market and the supply and demand for the bonds of this particular city. The condition of the municipal bond market, like that for other securities, varies greatly at different times. Business stagnation usually greatly depresses the demand for these securities while prosperity, on the other hand, makes for a ready market. Municipal bonds are bought largely by savings banks. In periods of depression depositors in these institutions are forced to draw upon their savings in order to meet their financial obligations. A boom will also frequently affect unfavorably the demand from these institutions. One of the most unfavorable phenomena of a boom is the reckless speculation that occurs in wild cat industrial and mining stock,

This worthless stuff is largely bought by poor people who take their money out of the savings bank where it yields a small but certain rate of return and foolishly put it into these ventures in the hope of realizing their glittering dreams.

Again a general rise in the interest rate invariably affects municipal bonds because investors tend to take other classes of securities which are offering larger returns. The active demand for money by railroad and industrial enterprises for the extension of their plants causes a jump in the interest rate. The city under such conditions is forced to follow the advance to a considerable degree by raising the rates on their bond issue. The yield on municipal bonds is therefore a varying quantity not only between different cities whose financial standing is dissimilar but in the various issues in the same city. When a city contemplates borrowing money it is the usual custom for the members of the Finance Committee of Council, or whatever body may have this work in charge, to consult with well informed bankers who outline the terms under which the bonds should be offered. If this is done and the city's credit is good there is usually no difficulty in selling the securities. If the advice of the banker is bad and the interest rate is made higher than might suffice, no harm results, for the bonds are usually sold through competitive bidding and hence bring a price considerably above par. The city, therefore, secures a larger sum of money than it promises to return in their redemption. In this way the excessive interest is offset by the increased amount which is received in the first instance.

Municipal bonds, when legally issued, are an exceedingly safe investment. As a consequence they are eagerly sought after and sell at favorable rates rang-

ing usually from three per cent. to four per cent. The market for municipal bonds is chiefly among those institutions and investors who desire safety of principal and who are willing to sacrifice something in the way of return in order to be certain of this point. The bonds do not appeal to the average small investor because of the low rate of return.

CHAPTER XVI

RAILROAD BONDS

134. *Popularity of railroad securities.*—There were in 1909 more than sixteen billions of securities outstanding against the railroads of this country; $7,641,913,000 were stocks and $8,788,519,000 were bonds. Upon the stocks there was paid $237,565,478 in dividends and upon the bonds the railroad companies distributed in that year $304,475,354. Of course all of these securities are not good investments, but as a class they rank high, and the fact that perhaps two million different individuals and institutions own them is indicative of their popularity. There are well defined reasons why railroad securities, and especially the bonds, which not only rank ahead of the stocks but possess a better record as income payers, should meet with favor. These reasons may be briefly summarized under four heads.

1. As the income of private corporations depends not upon taxes but upon earnings, stability of earning power is highly important. The revenues of railroads are subject to less variation and are less affected by changing business conditions than are the earnings of any other form of industry. In other industries wide fluctuations are experienced between the earnings of years of prosperity and years of depression, and therefore the obligations of corporations, the earnings of which may be reasonably reflected by varying business conditions, cannot be said to constitute as conservative investments as railroad securities.

In 1904, the United States experienced a slight business reaction which did not begin to approach the conditions of 1907, and yet there was a marked decline in the earnings of the industrial corporations: The United States Steel Corporation showed earnings (gross):

1903	$536,000,000
1904	443,000,000

and net earnings:

1903	109,000,000
1904	73,000,000

The gross earnings had declined 17 per cent and the net earnings 33 1-3 per cent in a year of a very moderate business reaction. Let us turn to the Lake Shore and Michigan Southern Railroad.

For 1903, the gross earnings were	$34,000,000
For 1904	35,000,000

The net earnings showed a drop of about $40,000. The aggregate gross earnings of all the railroads in the United States increased slightly in 1904; also the net earnings, although this was due more to an increase in mileage than to an increase in the business of existing lines. Some of the lines which were heavily bonded showed decreases, because the proportion of the earnings they could save was not large in comparison with the amount used up in payment of fixed charges.

2. The personal element does not figure largely in the management of a railroad; railroads are such great machines that even an incapable man at the head does not necessarily mean that the property is going to run

down. A great many of our industrial corporations are dependent for their success upon one man or group of men, and should they sell out or die, it would probably seriously affect the success of those corporations. We do not feel the same way about a railroad. The president of the Pennsylvania might die to-morrow and business would go on the same as before.

3. Railroads are great corporations of vital public necessity and importance and must continue in operation even when bankrupt and in the hands of a receiver. Manufacturing plants usually shut down when the company becomes bankrupt, but not so with the railroads.

4. Railroads possess valuable physical property. Many manufacturing concerns depend largely upon patents or the unusual personal skill of their officers or employés for success, but the railroads always own a vast amount of real property and frequently include among their holdings land in cities which is of far greater value than when it was originally acquired. In the case of western companies a large amount of land was given them by the government years ago before property in that part of the country was esteemed of any value. The investing public has heard much of the valuable terminal and other real estate holdings which the railroads possess and is therefore partial to railway securities as compared with those of manufacturing concerns, which may lose an all important patent through litigation, or those of mining companies, whose entire bed of ore may give out. The property held by the railroads, it is well known, is sure to increase in value as time goes on. Men always like to see what they own and it is a well recognized fact that many shareholders in our large railway companies live along the

line of the road, the sight of a fine roadbed inducing them to purchase the company's securities.

135. *Factors which determine the value of railroad bonds.*—It is impossible in the compass of a few chapters to consider all the factors which determine the value of railroad securities, but naturally the companies whose securities are most eagerly sought for, are those of the established roads, running through thickly populated sections of the country. The history of these corporations goes back through periods of adversity and periods of prosperity, and they have attained to a position of such strength and stability that they may be relied upon to weather all storms which from time to time upset the business world. Such corporations have passed the experimental stage and their record for the past gives an assurance for the future. Such roads have no fear of competition, because in thickly populated sections it is more difficult than in others to obtain rights of way, franchises, etc. It may be pointed out that the Erie railroad is so situated and yet it does not enjoy a very high credit; this is the case because it is bonded out of all proportion to its earning power and assets. A road must therefore be well situated and moderately bonded. Although the older roads enjoy the best credit the modern tendency toward consolidation is improving the investment position of many of the newer and smaller companies. Discussing this point Frederick Lownhaupt, author of "Investment Bonds," has this to say:

> The notable fact of the past decade has been the concentration of control, so that now barely 20 per cent of the whole remains in an independent position. Everywhere has been a knitting together of lines, so that as a result of this movement the railways are now a homogeneous body, and destined to become

even more compact before another ten years shall have passed. The community of interest movement of ten years ago unfortunately developed some abuses of railway credit, so that its after-effects were the signal for widespread legislative and political attacks during the past three years. Conditions are now rapidly righting, and this movement against the railroads has about spent its force.

Their credit is more firmly established than ever; their physical condition is being developed and improved, and strong financial and traffic alliances are being consummated every short while.

136. *Value depends upon type or form of the obligation.*—Railroad bonds vary in security not only with the strength of the issuing corporation, but also with the form, or type, of the obligation. One railroad may have bonds outstanding of different merit. Many railroad bonds are very similar to real estate mortgages; that is, they are secured by a mortgage or lien on certain property. Some bonds are merely promises to pay and are unsecured. The value of a bond depends primarily upon the margin of the security over the amount of the mortgage securing the bond. In real estate, if a piece of property is worth $100,000, a $25,000 mortgage secured by that property is a pretty safe investment. And so it is in railroad bonds, though there is more to the matter than the mere value of the property, because in the case of railroad bonds value is pretty largely established by the earnings of the property, whereas this is not at all the case in a real estate mortgage. You may have a piece of unimproved property that is earning nothing and yet you have a good security, but it is very seldom that we have railroad property earning nothing that has any value. One piece of property may have securities against it of different merit; that is to say, there may be a first, second or third mortgage

upon the property. Thus it is with a railroad. Ordinarily, it may be said those securities which lie closest to the road, are the safest. Bonds, the security for which is a first claim on the earnings and assets of the corporation, naturally outrank those the claim for which is inferior.

137. *Types of railroad bonds—first mortgage.*—In the volume on CORPORATION FINANCE the main types of bonds are discussed from the point of view of the issuing corporation. The following discussion relates to their investment characteristics and is adapted from a lecture by Allen G. Hoyt, of the bond house of N. W. Halsey & Company, before the New York University School of Commerce, Accounts and Finance:

These are a first lien on the earnings of the road, and in case of trouble, a first lien on the physical property of the road. If we had first mortgage bonds which were a first mortgage on the entire system, at a moderate rate per mile, there would not be any question as to the security. As a matter of fact, most of our railroads represent the growth and combination of several systems, so that we may have a first mortgage on various parts of the road and perhaps second or third mortgages on other parts of the system; practically in no important bond do we find it to be a first mortgage on the entire property. The value of the bonds, therefore, depends upon the importance and earning power of that particular part of the road.

Bonds are secured by a deed of trust, under which the road is conveyed to a trustee to be held in trust for the benefit of the bondholders; this corresponds to the mortgage and is often so called. The road is pledged as security for the loan which is represented by the bonds, and as long as the interest is paid promptly, the stockholders, being the owners of the road are allowed to manage and operate it. The trustee, to whom the road is conveyed, has the beneficial interest only, and has no voice in the management of the property. If there is a de-

fault, either in the payment of interest or the payment of the principal at maturity, the trustee may proceed to foreclose, to take possession of the road, have a receiver appointed or whatever action may be permitted by the court in the protection of the bondholders' interests. Usually, the first step is to have a receiver appointed, and if it is then found impossible to pay the defaulted interest, the trustee, on behalf of the bondholders, petitions for a foreclosure and a sale is made. In such a case, the rights of the first mortgage bondholders are superior to any other creditors, except possibly holders of receiver's certificates, if such have been issued. If the road for any cause is taken away from the stockholders, and operated by a receiver appointed by the court, the earnings, so far as practicable, must be applied to the payment of the first mortgage bondholders; if the road is sold at auction, the claims of the first mortgage bondholders take precedence over the claims of any other creditors.

138. *Duties of trustee.*—In case of default, providing such default lasts six months, the lien by which the bonds are secured is made effective by action on the part of the trustee. In modern railroad mortgages, a trust company is usually designated as trustee. The rights of the trustee are fully set forth in the deed of trust, and it is important that sufficient power be given him, or it, to take whatever action may be necessary to protect the bondholders. A deed of trust is a very important instrument from the bondholders' point of view. It is important that under this deed of trust, provision be made for compelling the trustee to act in case he is negligent. Provision should also be made for the removal of the trustee and appointment of another, should the interests of the bondholders require it. Railroad bonds are usually put on the market through the medium of private banking firms, and it is the duty of these bankers when purchasing such bonds, to attend to the drawing of the mortgage and deed of trust, and take care that all provisions are inserted that are necessary to make the bonds as secure as possible. Our more important banking houses recognize this duty, and employ counsel to examine the bonds before bringing them

out. The investor can usually discover any serious omission by an examination of the bonds.

It is interesting to note, in connection with the statement as to the provision usually found in mortgages that only in case of default lasting for six months or more shall the entire debt be declared due, that in the case of a very large issue of United States Steel sinking fund 5's, the debt does not become due until there has been a default in interest lasting for two years. I presume that in making this mortgage bankers realized the steel trade is subject to periods of depression, but that these do not last very long, and it would be better for the bondholders themselves in case of default not to have the property managed by a receiver and sold at auction unless the case was so serious as to prevent the payment of interest for two years. I think that would be too long a period in the case of railroad bonds. In the case of public service corporations it is usually required that the default last not longer than 90 days before the entire debt becomes due and foreclosure may be asked for.

139. *Divisional and branch mortgage bonds.*—Many of our railroads have different parts of their lines covered by different mortgages. There are divisional first mortgage bonds, first mortgage bonds on branches, mortgage bonds on terminals, and many others. The security of such bonds depends upon the earning power or value of the particular part of the system by which they are secured. In the case of terminals, although we have no earning power, there is great value attached to them because the terminals are most essential to the operation of the road. There is often no more important part of a road than its terminals, which are usually situate in large cities where heavy traffic originates or terminates.

140. *General mortgage bonds.*—A number of securities of this class were issued during, or following, the business depression from 1890 to 1896, when, as a result of reckless railroad financing many railroads were forced into the hands of receivers. The general mortgage bonds were secured by a general or *blanket* mortgage on all the property of the company; the lien,

however, being subject to the first or other underlying mortgages. Most of these bonds bore from 4 per cent to 5 per cent interest, and as a result of the reorganizations which occurred, the holders of the secondary or junior bonds bearing from 6 per cent to 7 per cent were obliged to take these 4 per cent bonds in exchange for them. The result of this was to reduce the interest charges so as to bring them within the amount which it was anticipated the road could earn. In some cases it was found possible to issue an additional amount of general mortgage bonds and with the money thus obtained rehabilitate the road. In most of the cases of reorganization that took place from 1893 to 1898, it was not long before even the bondholders who had to take preferred stock in exchange for the bonds really made a profit on the transaction because the roads soon reached a better position, on account of the country's growth, and dividend payments became regular and at a fair rate.

The usual authorized issue of general mortgage bonds was a large one, and the term a long one—a hundred years. Only a small part of these were issued at first, a large amount being reserved with which to redeem the underlying bonds as they matured. As a result, a number of general mortgage bonds of important systems are now secured by a first lien upon important parts of the road, and as the first mortgage bonds matured and were redeemed by these general mortgage bonds reserved for that purpose, the general mortgage bonds have been subrogated to the position of the first mortgage bonds which were redeemed. For instance: The Atchison, Topeka and Santa Fe had a general mortgage bond issue on the main line, which was preceded by a first mortgage due in 1905. In 1905, the first mortgage matured and additional general mortgage bonds were put out to pay off the first mortgage bondholders, and as soon as that was done, the general mortgage bond became a first lien on that particular part of the road. It was also usually provided that a certain amount, varying from one million to five million, could be issued each year for improvements, extensions, branches, etc. A typical issue of this class, although not created as a result of reorganization, is the Chicago, Milwaukee and St. Paul

Railroad bonds bearing 3½ per cent. The total amount of the authorized issue is $150,000,000; only $40,000,000 have so far been put out, the balance being reserved to take up divisional and branch bonds as they mature, and also to provide funds for improvements and extensions. These bonds are secured by a first mortgage on over 1,700 miles of road, and are a junior lien on the balance of the system. The Chicago, Milwaukee and St. Paul general mortgage bonds are regarded as a high grade security, because the total indebtedness of the company is very light in comparison with the value of its assets, and because the earnings are more than three times as much as required to pay its fixed charges.

The Atchison, Topeka and Santa Fe bonds, due in 1995, and issued in 1895 as a result of a reorganization plan which terminated the receivership of that road, were authorized to an amount of $165,000,000 and $152,000,000 of these are now outstanding. They are secured by a first mortgage on more than 5,000 miles of road. Since the reorganization the Atchison has developed into a road of great importance, in view of which the general mortgage bonds rank well. In 1907 and 1908, the net income of the Atchison was in excess of the amount required to pay the fixed charges in spite of the general business depression. These bonds are now a legal investment for savings banks and trust companies, as they meet the requirements of the law, having paid dividends on all classes of stock for six years.

The Erie general mortgage bonds do not compare well with either the Chicago or Atchison bonds. This is due to the fact that they are secured by a first mortgage on only a few miles of road, and on important parts of the system are preceded by as many as six prior liens. Erie bonds have sold as low as 60.

141. *Consolidated and unifying mortgage bonds.*—These are very similar to the general mortgage bonds just discussed. The authorized issue is usually a large one, and they run for a long period. As underlying bonds mature they are paid off by consolidated bonds reserved for that purpose; this gives rise to its name, smaller debts being consolidated or unified. Consolidated bonds generally rank pretty well. The fact that the issue is a

large one, generally exceeding $100,000,000, is an advantage to the investor, because, as a result, there is almost always an active market for them; they are listed on most of the large stock exchanges in this country and some are also listed on the European exchanges. They are widely distributed among bond buyers. They may at any time be immediately converted into cash, and as sales occur daily, one knows from the quotations published in the papers just what the bonds are worth. These bonds are particularly favored by banking institutions, who buy large quantities of them, because they are good collateral. Country banks will leave their bonds in New York banks for safe keeping, and any time their local demand for funds is heavy, and they need a little assistance, they can obtain loans on these bonds as collateral, or, if they do not want a loan, they can always sell the bonds at a good price.

The fact that $1,000,000 or more may be issued each year is regarded as a disadvantage, as the influx of such a large amount at one time may depress prices. However, such bonds usually appear through the medium of a large banking firm and their distribution is accomplished without unduly affecting the market. Many investors favor bonds secured by a closed mortgage; that is, an issue where all the bonds are outstanding and in the hands of the public. There is no occasion for apprehension in the case of such securities that the exigencies of the road will ever precipitate the throwing out of a large block of bonds for whatever prices they may bring. On the other hand, bonds secured by a closed mortgage are oftentimes secured by a branch or division, and the investor should know the importance and value of that particular branch or division before he can feel safe with his securities.

142. *First and refunding mortgage bonds.*—These are very similar to the two issues previously discussed. Most of the bonds of this class bear interest from 3½ to 4 per cent and run from thirty to fifty years. A number of first and refunding mortgage bonds made their appearance four and five years ago, their creation being a result in some respects of the prosperous times we were then enjoying, thus being entirely opposite

in their origin from the general mortgage bonds which are issued after a period of depression. After the reorganizations of 1893 to 1898 the credit of our roads in general improved as a result of better business conditions. Following 1900 the roads found themselves without facilities to handle the traffic pressed upon them. They needed new equipment and larger terminals and they also found there were a number of obligations maturing at that time and it became necessary to refund them. Our financial situation was good, large funds were available for investment, and the railroads took advantage of this fact by creating the refunding bonds. Banks were in a very easy position, and had no difficulty in financing an issue of $50,000,000 or $100,000,000 because the public was ready to absorb such bonds at good prices.

The Southern Pacific was a road which for years had been putting back its surplus earnings into the property for improvements. No dividends had been paid but the value of the property was increasing and as a result its credit also increased. When the company put out such an issue the public realized that the road was in good condition, its earning power assured, and that there was no question as to the security. Inasmuch as many of the maturing bonds were secured by a first mortgage, the refunding mortgage became partly a first mortgage bond. The refunding bonds were generally put out by roads which did not have any general mortgage bonds outstanding; or, by roads which did have such issues but found that the amount they could issue annually, $1,000,000, or thereabouts, was not sufficient for their purpose. The railroads had learned something from their experience with general mortgage bonds and made provision for issues of first and refunding mortgage bonds more liberally.

The Rock Island has a first and refunding mortgage bond, which is a first mortgage on a considerable amount of mileage. Undoubtedly, the Rock Island bonds have suffered on account of the additional issues we have had from time to time. This is not because people became skeptical as to the ability of the Rock Island to continue interest payments, but rather because

the Rock Island needed money, and the first and refunding mortgage bonds were about the only securities which it could issue, and for that reason it continued putting out these bonds at whatever prices could be obtained. When market conditions were unfavorable it had to sell them at low prices.

Ordinarily, refunding mortgage bonds have a good market. They are quoted in New York, London, Berlin, Amsterdam and Frankfort. It may be noted that there is some disadvantage in an international market. Should there be a business depression in one market, bonds may be thrown over and cause an influx in another market. But generally speaking, it may be said that bonds commanding a European market possess greater stability than those that are not sold abroad.

143. *Debenture bonds.*—A debenture is a promise to pay, which is not secured by a lien on specific property. It is more like the note of an individual. In Europe they have so-called collateral trust debentures, and sometimes debenture mortgage bonds, but when we speak of debenture bonds we mean bonds not secured by a specific lien. We have the Lake Shore debentures; New York Central debentures; New York and New Haven debentures. Sometimes there are indentures and a trustee is appointed, but no property is conveyed to the trustee; he is merely required to certify the bonds to show that there has been no over-issue. In case of a default the trustee is ready to act, have a receiver appointed and get a judgment. It would be difficult to list on the stock exchanges debenture bonds without this provision as to appointment of a trustee. The New Haven did at first issue certain of these debentures without provision for appointment of trustee or an indenture outlining the rights of the bondholders, and each bond was in this case the separate, individual note of the company. On their later issues, the New Haven followed the practice of the New York Central and Lake Shore and made provision for the appointment of a trustee.

144. *Income bonds.*—These are bonds the rate of interest on which is dependent on the income of the road. They are generally limited to 4 or 5 per cent, but the interest is not payable

unless earned and in that respect the bond is like preferred stock. Sometimes the principal is secured by a mortgage, and when that matures, the principal must be paid off or the road may be put through foreclosure proceedings. The Wabash debentures are really income bonds.

145. *Collateral trust bonds.*—Collateral trust bonds are bonds secured by a deposit of other securities, either bonds or stocks, or both. These bonds or stocks may be those of the issuing corporation or of some other corporation. Sometimes a road cannot sell its general mortgage bonds; so it may take up $10,000 of these and issue $5,000 collateral trust bonds against them and this collateral trust bond would be tantamount to a general mortgage bond. Sometimes one road will buy the stock of another road and put that up as collateral for a bond issue.

There are two classes of collateral trust bonds. In one case the issuing corporation is one of good credit, and the collateral deposited merely adds additional security. Secondly, the issuing corporation has no particular assets except the securities pledged. For example, the New York Central owns a large proportion of the stock of the Lake Shore; it has deposited that stock with a trustee and issued collateral trust bonds against it. You must not forget that in the case of collateral trust bonds, no matter how worthless the collateral may become, the issuing corporation is still bound. If the Lake Shore should go into the hands of a receiver the New York Central is still fully responsible for the bonds it has issued, even though the stock is wiped out entirely. The Atlantic Coast line secured control of the Louisville and Nashville, and issued its collateral trust bonds to pay itself, so to speak, for that purchase. When deposited, the stock was valued at 111; the Louisville stock has dropped to 80, but that does not affect the obligation of the Atlantic Coast Line, and when the bonds mature, the Atlantic Coast Line will have to pay the debt even if the Louisville stock has become worthless.

There are certain cases where the issuing corporation is a strong corporation and can put out bonds without any security; there are other cases where the only security of the bondholder

is the stock deposited as collateral. That is the case with the Rock Island Collateral Trust 4's. There are three Rock Island Companies (1), The Chicago Rock Island and Pacific *Railway* Company, (2) The Chicago Rock Island and Pacific *Railroad* Company, (3) The Rock Island Company. The first is a railroad company and is a strong corporation; the other two are merely holding companies. The Rock Island Railroad Company holds the stock of the Rock Island Railway Company, and has no other assets; against this stock of the Rock Island Railway Company, the Railroad Company has issued its collateral trust bonds, par for par. The man buying that bond is not in as good a position as the stockholder, because the latter has certain future possibilities; dividends may be increased. But it would make no difference to the holder of the collateral trust bond if the Rock Island Company earns 10 per cent; he is only entitled to 4 per cent; also, he has no voice in the management of the property; so that, naturally, this is a bond which does not rank very high. It is about as poor a grade of investment as one can imagine, because you have none of the advantages and all of the disadvantages of a stockholder. There are no prospects of an increase in return, no voice in the management, and as a result when we come to troublesome times, such as we had in 1907, these bonds dropped to 50. So that a collateral trust bond is not a conservative investment.

146. *Convertible bonds.*—These are merely debenture bonds, with the additional provision that under certain circumstances they can be converted into the stock of the company on a certain basis and after a certain time. For instance the Pennsylvania 3½ per cent income bonds are convertible into Pennsylvania stock at 150 per cent of the value of the stock; i. e., if you have $15,000 in bonds, you can have them converted into $10,000 stock. The convertible bond is an attractive thing for the railroad to issue and offers certain possibilities which appeal to certain classes of buyers. When business prospects are good, the speculative possibilities of increased dividends make them sought after. In view of these facts we had large issues of

these bonds in the prosperous years of 1904, 1905, 1906 and in the early part of 1907.

These bonds are attractive for the railroad, because if the bonds are converted, the railroad obtains additional capital and the fixed charges are reduced. The convertible privilege represents a call on the stock and may be good at any time or only after a certain time. If you bought Pennsylvania bonds at 90, you would not have to wait till the stock reached 150 to make it profitable for you to convert them into the stock; because by buying at this discount, you can afford to convert the bonds when the stock has reached 135.

147. *Equipment bonds.*—These are secured by the equipment of the company, engines and cars. Equipment bonds are nearly always issued so that they may mature in installments; a certain amount being paid off each year. Ordinarily the bonds are issued up to 85 per cent or 90 per cent of the value of the equipment. The equipment is either deeded in trust to a trustee and held for the benefit of the equipment bondholders, or, in case a banking house brings out the equipment trust, the banking firm may retain title to the equipment until the entire issue is paid off. In all cases the railroad company must keep up the equipment to its original value and keep it insured. As part of the mortgage is paid off each year and the value of the property remains the same, the security increases. Sometimes the notes are a direct obligation of the company and are so shown in the balance sheet; in other cases, the railroad leases the equipment, agreeing to pay a certain sum as rental, this amount being sufficient to meet the interest charges and the installment that is to be paid.

148. *Comparison between railroad bonds and real estate mortgages.*—Reference has already been made to the similarity between real estate mortgages and railroad bonds. No form of investment is more familiar to the average person than the real estate mortgage and therefore a comparison between railroad bonds and

mortgages on real estate is of interest. The comparison here used is that made by Floyd W. Mundy, author of the "Earning Power of Railroads":

	Railroad Bonds.	*Real Estate Mortgages.*
As to the security behind the investment.	The security behind well-selected railroad bonds, especially underlying bonds, is fully as great as in the case of real estate mortgages, and in many cases much greater.	The security behind well-selected real estate mortgages is more capable of appraisement, yet proof is not wanting to show that the equity here is not greater than in the case of railroad bonds.
As to the margin of safety in earnings.	A large measure of protection is found. In the case of well selected underlying bonds the protection is much greater than in real estate mortgages.	A large measure of protection is found generally where the mortgaged property is improved and used for business purposes. Protection is uncertain in case of dwellings and unimproved property.
As to the rate of income.	The interest rate is usually lower on railroad bonds.	The interest rate is usually higher on real estate mortgages by from one-half to one per cent.
As to marketability.	Railroad bonds are readily marketable and at minimum expense. Railroad bonds are for the most part listed and dealt in on prominent stock exchanges.	Real Estate mortgages are not readily marketable. Expense attending sale is comparatively heavy. Real estate mortgages are not listed on exchanges.
As to availability for collateral loans.	Railroad bonds enjoy a high degree of favor among bankers as collateral for loans because of their ready saleability. Most bonds pass from hand to hand as readily as bank notes. A banker can easily inform himself as to the probable value of any railroad bond by reference to any one of the numerous railroad and investment manuals.	Real estate mortgages are not promptly accepted by bankers as collateral because they are not readily marketable. The expense to an investor seeking a loan is large on account of commissions, cost of examination of title, etc.

	Railroad Bonds.	*Real Estate Mortgages.*
As to appreciation with advance in value of security.	Railroad bonds, which usually have a long time to run, when purchased at a fair interest return basis, will appreciate in sympathy with the increase in value of the security behind them.	Real estate mortgages, owing to their short maturity, do not rise in market value appreciably, even when the security of the loan is greatly enhanced.
As to depreciation with decline in value of security.	For the very reasons which cause bonds, under normal conditions, to advance when the security behind them increases, railroad bonds usually decline when the security is impaired.	Unless the impairment in the security is great, real estate mortgages do not have a tendency to decline under normal conditions. In this particular real estate mortgages are preferable to bonds.
As to the status in the event of serious impairment of security, and in case of default.	When bondholders find it necessary to take legal steps to protect their investment against threatened default, or in the event of actual default, the expense pro-rated among a large number of bondholders is inconsiderable.	When there develops serious depreciation in the value of the security behind a real estate mortgage, the selling value of the mortgage is greatly lessened, and the lack of ready marketability often entails a severe loss on the investor. In case of default, the holder of the mortgage is often compelled to take over the property at considerable cost and inconvenience.

CHAPTER XVII

MAIN ELEMENTS OF A RAILROAD REPORT

149. *Purposes of the annual report.*—Most of the information upon which the investor relies in forming his judgment of railroad securities is gotten from the annual reports published by the railroads, the various statistical publications compiled from these reports and from the information which the railroad companies are required by law to furnish to the Interstate Commerce Commission. The form of the annual report of the railroad companies, under the provisions of the last Interstate Commerce Act, has been reduced to a uniform basis.

The purpose of a railroad report is to give such information as the stockholders desire concerning the earning power of the company, its financial condition, and its physical characteristics and condition. In order to show these three things the report is usually subdivided into three parts. The first—intended to show the earning power—is called the income or revenue account. This usually contains a statement of the gross earnings, the operating expenses, the net income from all sources, the charges for interest, taxes, etc., (including all fixed expenses), the dividends paid to the stockholders and the amount carried to surplus which, in reality, is commonly used in improving the road. The financial condition of the company is shown by its balance sheet which contains a statement of both capital assets and liabilities, and of current assets and

liabilities. The physical characteristics of the property are shown by the physical statistics which, in most cases, give details concerning the length and location of the various portions of the road, the volume of traffic, in total and on each division, the number of tracks upon each section of the road, and the proportion of the total business carried in each direction. To this is added a detailed statement of the number, a description of each class of equipment owned by the company and statistics showing the amount expended upon their maintenance and replacement. Data is also included showing the performance of the locomotives and average cost of operating the locomotives per mile run.

When these things are shown in sufficient detail, it may be said that the report is complete. In a great many cases the railroads do not give all of the information included in this summary. In such cases the investor must base his judgment upon whatever information is furnished.

150. *The income account.*—Let us take up first of all the income or revenue account. The form of presentation of the revenue account as now given in railroad reports, and required by the Interstate Commerce Commission, is as follows:

Operating revenues.
Operating expenses.

Net operation revenues.
Taxes.

Operating income.
Outside operations.
Other income.

Total income.
Deductions from income on fixed charges.
Interest.
Rentals.
Sinking fund, exchange, etc.

Net income.
Dividends.
Additions and betterments.
Surplus.

The most important items of revenue are income from passenger travel, freight traffic, mail and express. The operating expenses of a railroad are classified according to the rules of the Interstate Commerce Commission under five general accounts as follows:

(1) Maintenance of way and structures; (2) maintenance of equipment; (3) traffic expenses (a new account not hitherto reported); (4) transportation expenses, and (5) general expenses. The Commission prescribes in detail what shall be grouped under each main classification.

1. Under maintenance of way and structures fall expenses for the repairs and renewals of machinery and tools, for repair of roadway and track, for ballasting, for repairs and renewals of switches, frogs, ties, fences, bridges, culverts, stations, shops, buildings, etc.

2. Under maintenance of equipment fall expenses for the repairs and renewals of locomotives, passenger cars, freight and other cars and of steamboats and for the maintenance of shop machinery, etc.

3. Under traffic expenses fall wages of officers directly in charge of traffic, freight, passenger, baggage and other agents, expenses of outside agencies, advertising, fast freight lines, etc.

4. Under transportation expenses fall wages of station employés, clerks, yardmen, flagmen, watchmen, enginemen and trainmen, expenses for telegraph and station service, cost of fuel and supplies for locomotives, expenses for water supply, loss and damage, etc.

5. Under general expenses fall salaries of general officers and office clerks, expenses for legal services, insurance, etc.

It appears at once from the nature of the expenses which fall under these headings that the amount of expenditures under one (1) and two (2) is, to a considerable degree, subject to the discretion of the managers of the road, and, other things being equal—reflects their conservatism or lack of it. On the other hand, under three (3), four (4) and five (5) fall expenditures which are wholly obligatory, in that while they fluctuate each year with the volume of business, train mileage, etc., they are outlays which are altogether incident to the present conduct of the road's traffic.

These subdivisions of the operating expenses may then be divided into two classes.

A. Maintenance expenses.

B. Traffic, transportation and general expenses.

151. *Importance of close inspection of maintenance expenses.*—Next to the investigation which the investor makes concerning the sources of a railroad's income and the degree to which they are likely to vary and the effect of such variance, there is no more important subject for him to investigate than the sufficiency of the maintenance expenses of the railroad. There are many railroads in the United States which have met financial disaster through inadequate outlays for keep up. There are, also, railroads whose expenses seem

extravagant as compared with other companies in the same locality and doing the same general character of business, but which in reality are very efficiently managed. The excess is due to the large amount of improvement work which is carried on and charged to operating expenses, which in other cases would probably be charged to the capital account. In addition the investor must be satisfied that the road is not only maintaining its property but that it is keeping abreast of the times. A railroad, like every other form of business, must keep up to date. The standards are constantly changing. That which was first class ten years ago is perhaps out of date to-day. It is necessary, therefore, for a company to adopt every new improvement in order to hold its own in the race for business.

152. *Differences in maintenance standards.*—Practically every railroad company at the present time reports its operating expenses in detail, enabling careful comparisons to be made. The two important items of maintenance are "maintenance of way and structures" and "maintenance of equipment." The amounts which should properly be expended for these two items varies considerably in different sections of the country. In the first place, it depends largely upon the volume of business which the railroad handles. In the second place, the standards of railroad track differ in various sections of the country. Upon the big eastern trunk lines we have a very high standard of road-bed. This requires a heavy stone ballast, stone or steel bridges, rails from ninety to one hundred and ten pounds to the yard and oak or other hard-wood ties. Such a road-bed is much more expensive to construct and maintain than the lighter tracks found in other sections. In the West

and South a large percentage of the roads cannot afford stone ballast; they use gravel, or, in some cases, the ties are laid directly upon the mud. The rails run from seventy to ninety pounds to the yard, while the ties are not nearly so expensive as in the case of the trunk lines where the requirements are much more severe. Roads like the Baltimore & Ohio, the Chesapeake & Ohio, and the Norfolk & Western, for example, run through mountainous districts and are subject to washouts. Other roads like the Southern Pacific run through districts having little or no rainfall and washouts are, consequently, almost unknown. In addition, the dryness of the soil causes ties to decay less rapidly than in moister sections.

153. *Maintenance of way.*—Now the amount of money which must be spent upon each of the various items of maintenance varies under different conditions. There are, however, certain things which are reasonably well fixed. The first is that the ordinary road finds that its ties, as a rule, have a life of from five to seven years, the cost of ties ranging from 35 cents to $1.25.

The Bureau of Statistics of the United States Government in its report for 1907, stated that the average price paid for the ties used by steam railroads was 54 cents each. There are about 2,000 ties in each mile of track. Figuring that one-fifth must be renewed each year, this would mean the cost of ties, but not including the cost of distributing them or the labor required to lay them, would be $200 per mile of track.

The cost of rail renewals depends largely upon the amount of business handled over the road. The life of a rail varies from ninety days, in some of the freight yards in the large cities, to fifteen years on the branch

lines. In general it may be said that the average life is about ten years.

The price of rails has been fixed for a number of years at $28 per ton. A ninety pound rail at this price makes a total cost of a mile of single track about $4,625, and the cost of renewal, figuring an average of ten years for the life of the rail, at $462 per annum.

The railroads usually have to pay about 75 cents a yard for crushed stone delivered along the road. The cost to ballast a single track of high standard is about $3,000 per mile and the ballast will last, with care, from eight to ten years. Thus it would cost from $300 to $400 annually for the renewal of ballast.

It is difficult for investors to arrive at the cost of the other items of maintenance of way because detailed statistics are not usually available. A large number of investors, therefore, judge of the adequacy of maintenance largely upon the basis of the amount spent annually for the three items—rails, ties and ballast, data concerning which is almost always included in the report.

A large bond house in one of their booklets laid down the rule some years ago that a railroad should under no conditions spend less than $800 per mile of track upon its maintenance of way, while most railroads in the south and west should spend from $900 to $1,100 per mile. This writer also concluded that $1,300 to $1,400 per mile of single track is sufficient for the average requirements of the trunk lines. Such a generalization, however, must be accepted with many reservations. We find such railroads as the Baltimore and Ohio, for example, during the year ending June 30th, 1908, half of which was a period of panic and extreme decline of earnings, spending $2,729 per mile for main-

tenance of way. The New York, New Haven and Hartford spent $2,923; the Lackawanna and Western, $4,661; the Erie, $2,723; the Lehigh Valley, $2,415; the New York Central, $3,295; and the Pennsylvania spent $5,194. All of these roads, according to this writer, should spend not over $1,400 per mile.

154. *Dangers of generalizations.*—The difficulty of any such generalization is two-fold. The first is that there is no such thing as a standard mile of track. Each road, to a large extent, has its own standard. Each operates under conditions which are not encountered upon other systems. There are many factors such as, for example, the number of bridges and tunnels, which have a material effect upon the final result, but about which no general rules can be made. In the next place, the prices of material and labor vary greatly at different dates. In hard times ties, rails and labor can be bought cheaply; in good times their prices will advance from thirty to forty per cent. The amount of money which is sufficient, therefore, in one year is not adequate in another. The best rule for the investor to follow is to compare the expenditures of the road in any particular year with the outlays for any five or ten preceeding years, and then to compare these results with the amount spent by other railroads in the same territory during the same period of time.

155. *Maintenance of equipment.*—The next item of operating expenses is the maintenance of equipment. Many authorities make the error of trying to base the maintenance of equipment expenses upon the basis of the miles of road in the system. This idea is incorrect. A road, such as the Chesapeake and Ohio, which moves coal, will need a great deal more equipment than the

Chicago, Milwaukee and St. Paul, which moves grain. With the former, the wear and tear will be much greater because of the more severe use and the greater number of heavy grades and sharp curves. The only way to determine the cost of maintenance of equipment is on the basis of the work done, or, in other words, the number of miles the locomotive and cars travel. The deterioration of the rolling stock can be classified under a number of heads. The first concerns the age of the equipment. During the first few months, while the cars and locomotives are new, the maintenance charges will be comparatively light. As the equipment grows older the maintenance cost increases. This applies chiefly to roads which have made large additions to its rolling stock in any given period of time. The average railroad is constantly replacing cars and engines worn out with new ones, so that their average age is always about the same. The second factor is the wear and tear on the rolling stock due to the continual stopping and starting of the trains. Roads which have a long average haul do not have to make as frequent stops, and consequently the damage to the equipment from this source is less than for its less fortunate neighbors.

The third element of importance is the amount of wear due to heavy grades and the curvature of the track. Hilly country greatly increases the maintenance cost, for the equipment is subject to heavy strains in going over the hills. The practice of most roads is to keep their locomotives and cars in the service until such time as they become weak and hence dangerous to the safety of the road, or until the repair expenses become so great as to make their retention unprofitable. When this occurs the equipment is

scrapped, and new locomotives and cars are purchased to take their place. The cost of this new equipment is usually charged to operating expenses under the classification of "maintenance of equipment," regardless of whether the locomotive bought is of the same size and power of its predecessor. It is customary, in fact, to buy new engines which are more effective than the old ones. Sometimes there is a difference of as much as 50 per cent in their ability. Most large railroads, however, charge their entire cost to maintenance in spite of the increased capacity which is secured.

About the only thing which can be said in the way of standards of equipment maintenance is that a company should spend from 5 to 6½ cents per mile run for locomotives and from 5 to 7 mills per mile run for freight cars. The maintenance cost of passenger cars should be about 1¼ cents per mile run. If we express these figures on the basis of the average work done by the various classes of equipment, we will find that $2,200 per annum should be spent upon keeping up each locomotive. The cost for maintaining freight cars should run from $45 to $60 per year, while a fair average for passenger equipment would be about $550 per annum.

156. *General expenses.*—The next item of operating expenses is the amount spent for traffic, transportation and other expenses. There is really little information which can be had from the total amount of these expenditures. The fact that one road spends more than another is not proof that one is economically managed and the other extravagantly operated. The volume of these expenses depends almost entirely upon the volume of business which the road handles. They are made up of the wages of the engine and round house men,

the cost of fuel, the cost of conducting the train service, including the wages of employés, the amount spent for traffic soliciting and advertising, and other general expenses, including adminstrative and office salaries, the salaries of ticket agents, etc. It is obvious that as the business grows, the number of employés and the amounts required for the various items of expense will increase. As a rule about 38 per cent of the gross earnings of the railroad is used up in defraying these expenses.

In comparing two roads, if it is found that these expenses, in the case of one road, take a higher percentage of the gross earnings than the other, it means one of two things, either a difference in the economy of operation or a difference in rates. If the rates remain unchanged, a rise in the percentage, either absolutely or by comparison, is often very significant. That is, if you find in the case of one railroad that the rates have not been changed at all, and the percentage for conducting transportation is running up, it indicates that the road is being operated with less efficiency, or else that the increased wages, materials and supplies are eating up the profits of the road. If you find two roads in the same territory, one spending 43 per cent of its gross earnings and the other 38 per cent of its gross earnings for conducting transportation, it indicates that the first road is operated with much less efficiency than the second. These expenses are a fixed charge upon the gross earnings, and as the percentage rises, the share remaining for the owners declines. For example, the conducting transportation ratio last year for the Chicago, Milwaukee and St. Paul was 41.3 per cent, while in the case of the Chicago Great Western it was 49.1 per cent. If you assume that the rentals and taxes require about 20

per cent in each of these cases, 69.1 per cent of the Chicago Great Western gross earnings would be consumed by conducting transportation expenses and interest charges, leaving 30.9 per cent to maintain the road and pay dividends. The margin of safety then is 30.9 per cent, but for the St. Paul, with its lower operating ratio, the margin would be 38.7 per cent. That is to say as your transportation cost ratio rises, your margin out of which you must maintain your road, pay dividends and interest, declines. So an increase in transportation cost is considered to be a bad sign. It often happens, however, that differences in the conducting transportation ratio do not indicate differences in efficiency of operation. Rates may be much lower in one locality than in another. This is often due to the activity of state railway commissions. If a company has a large local traffic, such as the Alton, and the state commission puts down rates, then the ratio is going up, even though the operating efficiency improves all the time.

The ratio of total operating expenses to total gross earnings is of much less significance than the ratio of conducting transportation. That is to say, you have four elements in operating expenses. You have conducting transportation, maintenance of way and structures, maintenance of equipment and general expenses. Compare that with gross earnings and you have a percentage probably between 55 and 70 per cent. This is what is known as the "operating ratio." There is a great deal of fictitious importance attached to this operating ratio. It means very little without interpretation. It is common to hear people say that a road which is operating at 50 per cent is operating at altogether too low a ratio. On the other hand, a road

which spends 75 per cent is liable to be accused of putting away its profits in extravagant maintenance, and it is said that some day it will have a melon to cut. Neither of these conclusions is correct. The operating ratio should be considered in connection with the gross earnings of the road. As gross earnings increase the road can be operated at a smaller ratio, and, vice versa, where gross earnings are small a high ratio is necessary for even ordinary maintenance. For that reason the operating ratio is without much significance. The cost of conducting transportation is of the greatest significance.

157. *Fixed charges.*—The final deduction to be made from the income of the company, before the amount available for dividends is ascertained, is the sum required to meet the fixed charges. The fixed charges of the road include the interest upon its bonded debt, the rentals guaranteed upon leased lines and the taxes levied by the state. The important thing for the investor to ascertain is what surplus there may be after these expenses have been met. A road becomes insolvent when it is unable to pay its fixed charges. If it, therefore, has a large surplus income after paying operating expenses and interest charges, and the character of its business is such that no serious decline in earnings is to be expected, the investor owning stock in the company is in a pretty safe position. The mere fact that the road has a heavy capitalization per mile means nothing at all. The real test is in its ability to carry this capitalization under all conditions.

The investor, in case of doubt, should analyze the interest charges to ascertain their nature. This is particularly true if he is contemplating buying the stock. There are a number of roads which have outstanding

bond issues bearing a high rate of interest. It is likely that at a not far distant time these bonds can be replaced by other securities bearing a lower rate of return. The saving, of course, belongs to the stockholders. The question of rentals should also be investigated. There are two kinds of rental agreements in force. The first provides for a fixed guarantee paid by the operating company. This must be met under all conditions, regardless of whether the leased line earned the amount. The second form provides for the payment of all, or a portion, of the net earnings to the stockholders of the leased company. Under such conditions the outlay for rentals declines with the profits derived from these roads. Such an arrangement is, therefore, much more desirable for the operating company.

An analysis of the rentals is illuminating to the investor because it enables him to ascertain which of the leased lines are profitable to the company. Many railroad companies have come to grief through unwise rental agreements. The failure of the Atchison, in 1893, for example, was due largely to heavy guarantees upon unprofitable leases.

158. *Balance sheet.*—This naturally leads us to the consideration of the balance sheet. This, as we have seen, is a statement of the capital assets and liabilities, and of the current assets and liabilities of a company. The total amount of stocks and bonds of the company is generally offset by a counter entry on the asset side of the balance sheet, representing "cost of road and equipment" and "securities owned." As a matter of fact, the former is largely a fictitious matter for the cost of the road and equipment, as carried on the balance sheet, very seldom corresponds to the actual

amount which has been spent upon the property. The best managed corporations spend large sums annually which really increase the value of the property and no record is made on the balance sheet of the increase. The important thing for the investor to look for on the balance sheet besides the question of funded debt and guaranteed rentals, is the correspondence of the current assets and current liabilities. The current assets are usually made up of "amounts due from controlled companies for advances for construction and for other purposes," "bills receivable," "amounts due from agents," "the cost of materials on hand," and the "cash" in the possession of the company.

The ordinary railroad company should not have a very large amount of bills receivable as compared to its total assets, for it does a cash business, with the exception of a few shippers which are granted a limited credit. The amount due from agents should also be relatively small. The company should make its collections at frequent intervals, thus keeping the totals of this amount down to a low figure. The stock of materials on hand can usually be left to the discretion of the company. A discreet company is not likely to have an unnecessarily large stock of materials.

The most important item for the investor to consider in the current assets of a company is the amount due from controlled companies for advances. Many railroad companies in the past have carried large sums in this account. Their stockholders have been led to believe that this represented real assets. As a matter of fact, it was later discovered that the controlled companies would never be able to repay these advances. The parent company was, therefore, carrying dead assets on its books.

The current liabilities are made up of "amounts due for payrolls and vouchers," "traffic balances due other roads," "accured interest upon bonds," "dividends due but uncollected," and, finally, "bills payable," and other "miscellaneous liabilities." The ordinary company, at all times, owes a considerable sum to its employés. If this item shows an alarming growth it shows that the company is having difficulty in meeting its payrolls, and as a consequence is getting back in its payment of wages. The other credit balances of the road should be kept down to a reasonable figure.

The most important item in the liability statement for the investor is "bills payable." This generally represents notes which the company has had discounted with various banks. These are generally spoken of as the "floating debt" to distinguish it from the bonded debt. A large floating debt is a menace to any corporation, for the loans, which compose it, are usually made for short periods of time, say from four months to one year. If the company has sufficient cash balance to pay off its floating debt, without crippling itself, there is, of course, no reason for worry. However, this is not usually the case. The danger lies in the fact that bankers may refuse to extend the loan when due, thus precipitating a receivership. When an investor sees this item rapidly increasing it is well for him to consider the sale of his securities. A floating debt is an exceedingly extravagant way of securing money. The Erie railroad, for example, some years ago, paid over 11½ per cent per annum for money secured in this way. The amount in excess of the legal rate of interest was represented by the "commission paid to bankers to secure the placing and renewals of the loan.

159. *Operating and traffic statistics.*—Let us turn

for a moment now to the operating and traffic statistics and ascertain their significance. The first class of information furnished usually deals with the relative proportions of the various classes of traffic handled on the road. The next important information generally given concerns the average trainload. This item should be studied in the light of the character of the traffic handled by the company. Comparisons should be made only between companies in the same territory and of the same character of business. The roads which have heavy low class traffic are forced to have very high trainloads to make any money. The Chesapeake and Ohio, for example, has an average trainload of 586 tons, while the Norfolk and Western has a trainload of 507 tons. These roads are very much alike, both handling largely soft coal.

One would say if the Chesapeake and Ohio hauls 586 tons and the Norfolk and Western 507 tons per train, that the Chesapeake and Ohio makes more money than the Norfolk and Western, but it is necessary, before jumping to such a conclusion, to consider also the rate obtained by each of these roads. We find that the Norfolk and Western gets 48 cents per mile as against 42 cents per mile for the Chesapeake and Ohio, so that although the latter has a higher trainload, the Norfolk and Western has a higher rate. The trainload varies materially on differents lines, but a light trainload, which consists of high grade traffic such as you find on the western roads, is just as profitable to the road as a heavy load consisting of low grade traffic. The rate of the New York, New Haven and Hartford is 1.4 cents per train mile, so the trains of the New Haven Road earn a great deal more than the trains of the Lehigh Valley, which has a trainload nearly twice

as great as that of the New Haven Road. In considering this question of trainload it is usually advisable to compare the trainload of the road you are examining with that of a road similarly situated, and to note the increase or decrease of the trainload in your particular instance. Almost invariably you will find an increase, and that means, as a general proposition, that your road is increasing its efficiency. The Great Northern, Northern Pacific and Burlington have all had remarkable increases in their trainloads. That does not necessarily mean that they pull heavier trains. It means that the equipment is more fully utilized—that the company's movement of empty and partially loaded cars has decreased.

CHAPTER XVIII

RAILROAD TRAFFIC AND EARNINGS

160. *Sources of railroad earnings.*—The basis of the value of railroad securities, as, in fact, of the securities of all private corporations, is the earning power of the properties. The investor, as we have seen, seeks two things: the security of his principle, and the constancy of the rate of return. He cares little or nothing concerning the correspondence of capitalization with cost, for experience has shown that where a corporation has an enviable record of earnings it is able to refund its bond issues when they mature, because others will be willing to pay for the capitalized income which their predecessors had enjoyed. In order to comprehend properly the value of railroad securities as investments it is necessary, first of all, to analyze the sources from which the earnings of the railroad arise. The reports collected by the Interstate Commerce Commission show that for the year 1907 the earnings of the railroads of this country were as follows:

GROSS EARNINGS FROM OPERATION

Passenger Traffic	$ 564,606,343.00
Mail	50,378,964.00
Express	57,332,931.00
Freight revenue	1,823,651,998.00
Other earnings	93,135,342.00

This official compution shows that the greater bulk of the earnings of the railroads does not arise from the operation of passenger trains, which, to the mind of the layman, constitutes the most important part of its

business, but from the freight trains, which are looked upon as a necessary evil by the traveling public.

161. *Long distance passenger business.*—The passenger business can be divided into two portions, first, the long distance travel handled by fast trains between cities; and second, the surburban business, originating in and around the large cities, and the local travel upon slow trains between the country districts and little towns throughout the country. The long distance business is in most cases relatively unprofitable to the railroad. The service demanded by the public involves heavy expenses. There may, for example, be a quarter of a million dollars invested in a single train whose average daily load is fifty passengers. The operation of these trains demands the best locomotives, and the road must maintain a reputation for accurately observing its schedules, no matter how much this may inconvenience the handling of the other portions of its business. As a consequence the entire road must be operated to suit the convenience of a few trains. Main tracks must be kept clear for their passage, often requiring the side tracking of freight trains, with a consequent loss through the wages of men who are thus kept idle. The fast train is, moreover, very destructive both to itself and to the roadway. The rapid motion creates great and destructive strains, requiring not only the highest standard of track, but the greatest care in its upkeep. In spite of the great expense involved in this service, however, the railroads would be able to make it profitable could they secure a full trainload. A passenger train of four day coaches and a Pullman will seat about three hundred persons. On the Pennsylvania Railroad in 1907 the average number of passengers per train was fifty-three. For the entire

United States the average number of passengers for the same year was fifty-one. When we consider that this average was made up in part by the surburban traffic handled on trains, hauling perhaps four hundred passengers each, we can see that the through business and the local business is handled over the country at large with a very small trainload. If we turn for a moment to the freight service we can gain some idea of the difference which exists in this respect. The average load for the freight locomotive is probably about one thousand tons. The average number of tons in each train for the entire country in 1907 was three hundred and fifty-seven. In other words, speaking roughly and generally, we might say that the passenger train carried up to one-sixth of its capacity, and the freight train carried up to one-third of the capacity of the locomotive. Many railroads frankly admit that their best through passenger trains are not profitable. They regard these trains as advertisements of their road, and operate them for this purpose and to perform the service which they owe the community.

162. *Surburban business.*—The surburban business of the railroads is confined to relatively few localities. It exists outside the large cities, such as Boston, New York, Philadelphia and Chicago, and, to a lesser extent, around the smaller cities throughout the country. This business is in most cases very profitable. The traffic is constant, being composed of the commuter, who rides every day regardless of the weather or the season of the year. The trains are loaded, during most of the day, to their full capacity. The equipment is not nearly so expensive, the speed is not so great, and the consequent expense of operation is not so heavy. The testimony of Mr. Rea of the Pennsylvania, showed that

the profitable suburban business was found at stations further than five miles from the terminal. This conclusion is supported in the main by the experience of other railroads.

The local business is the last portion of the passenger traffic to be considered. It is made up of the travel of the inhabitants of agricultural districts to county seats or small towns, and from one rural section to another. The volume of earnings which it produces is unimportant, and in the main this traffic is handled with little or no profit.

The mail and express business is operated in conjunction with the passenger service. The volume of the earnings from this source is comparatively steady; it cannot be increased to any considerable extent by a vigorous campaign for business. This traffic is really a side line to the passenger business.

163. *Freight business.*—Let us take up now the most important part of the railroad's traffic. The freight business is made up of thousands of commodities, different in nature and value and representing every form of production. Many of these commodities require special form of equipment for their transportation. Almost every commodity has a special rate which is charged for its carriage. It has been estimated that some of the large trunk lines have over 1,200 separate rates in force. These rates are arranged in a classification, enabling any particular rate to be easily ascertained. We can group these hundreds of articles, however, under certain general heads. In 1907, for example, the tonnage of the various kinds of traffic, according to the grouping adopted by the Interstate Commerce Commission was as follows:

Products of agriculture	155,042,000	tons.
Products of animals	39,571,000	"
Products of mines	858,560,000	"
Products of forests	172,287,000	"
Manufactures	265,629,000	"
Merchandise	63,663,000	"
Miscellaneous	63,956,000	"
Total tonnage hauled	1,641,410,000	"

Each of these general groups is made up of a number of important classes of traffic which, in turn, can be subdivided almost endlessly.

The greatest number of these subdivisions occurs, of course, in the case of munfactures and merchandise.

164. *Rate problem.*—The railroad company must fix its rates in such a manner as to secure from each of these sources of business the proper amount of revenue. In doing this, the traffic manager must keep in mind that the road has certain expenses which must be met under all conditions. The first expense is what is known as the "fixed charges" of the road, which includes interest on its bonded debt, the rentals which it pays to its leased lines, taxes, insurance and other items of a similar nature. To these, in the case of a profitable road, the manager usually adds the item of dividends which he must earn for his stockholders and which, therefore, from this point of view, are fixed. In addition, a company must spend a certain amount each year upon the maintenance of its roadway and equipment. This amount, as we will see, is subject to variation, but it really should be a reasonably fixed quantity because the failure to make proper expenditures results in permanent injury to the property. Finally, the traffic must yield a sufficient amount to meet the cost of handling the business. This includes the operation of the trains, losses due to wrecks and accidents, wages of trainmen

and signal men and many other items of a similar nature which are incident to the running of a road. To apportion these many sources of expenditures to each article handled is a problem which is incapable of perfect solution and about which there is considerable diversity of opinion. A detailed study of this subject is not pertinent to the present volume but there are two general principles which should govern the amount of freight charges. The traffic manager will not ordinarily carry any freight which does not pay the actual cost of carriage and a surplus for the other expenses, and he will charge as much above the cost of carriage as the traffic will bear, consistent with the best interests of his company. This principle of charging what the traffic will bear is very generally condemned, especially by people who are not very familiar with the railway business. It is true that it is abused and that there are many instances where railroads have charged rates which strangled industry and crippled entire sections. The principle, however, when applied in an enlightened manner, is really the true basis of all railway charges.

165. *Grouping of railroads upon the basis of traffic.* —Almost every railroad predominates in some one class of traffic. It is customary to classify them upon the basis of the most important items of their business. We thus hear of "the granger roads," "the soft-coalers," "the trans-continentals," etc. In the minds of the investors the roads naturally group themselves in this way, for he realizes that the basic factor upon which their prosperity depends is their traffic. To him, therefore, it is the most important consideration. The classification of roads usually accepted is as follows:—

The Grain Roads.

Chicago, Burlington and Quincy,
Chicago, Milwaukee and St. Paul,
Chicago and Northwestern
Missouri Pacific,
Union Pacific,
Great Northern,
Northern Pacific,
Rock Island,
Atchison, Topeka and Santa Fe.

Hard Coal Roads.

Reading,
Lehigh Valley,
Delaware, Lackawanna and Western,
Delaware and Hudson,
Pennsylvania,
New York, Ontario and Western,
Erie.

Soft Coal.

Baltimore and Ohio,
Chesapeake and Ohio,
Norfolk and Western.
Pennsylvania,
New York Central,
Hocking Valley,
Wabash.

Ore.

Pittsburg, Bessemer and Lake Erie,
Lake Shore,
Great Northern,
Chicago and Northwestern.

Lumber.

Louisville and Nashville,
Great Northern,
Northern Pacific,
Southern Pacific,
Missouri Pacific,
Rock Island,
Illinois Central,
Mobile and Ohio,
Southern,
Seaboard Air Line,
Atlantic Coast Line,
Norfolk and Western.

Fruit.

Southern Pacific,
Central Pacific,
Union Pacific,
Atchison,
Illinois Central.

Cotton.

Louisville and Nashville,
Illinois Central,
Missouri Pacific,
Seaboard Air Line,
Atlantic Coast Line.

166. *Reasons for this classification.*—It is impossible, in the brief space which can here be devoted to the subject, to give anything but the most general survey of the traffic questions which must be considered by the investor. Every railroad must be studied from its individual standpoint. Almost every road presents, in its annual reports, statistics showing the character and proportion of each class of its business. These figures must be carefully reviewed by the investor and their importance taken into consideration in judging of the securities of the property. He must study the traffic position of the road and become intimately acquainted with the degree of competition which is encountered, the markets which are served, the rates which are charged, the possibility of fluctuations in the volume of business due to hard times or other causes, and the effects which these fluctuations will have upon the earning power of the property. Such a study is very absorbing to any one interested in such questions. It is the first and most important analysis which must be made in determining the value of the securities of any railroad, for upon it depends the gross earnings of the property. If the volume of gross earnings remains stationary the present satisfactory condition of the property is likely to continue. If it is subject to violent fluctuations the investor must carefully study the possibilities which are likely to follow a decline.

CHAPTER XIX

ANALYSIS OF A TYPICAL RAILROAD REPORT

167. *Necessity for making a typical investigation.*—It is difficult to gain a clear understanding of the way in which an investor examines the annual reports of a railroad company in order to ascertain its financial condition from the mere study of general principles without any application being made to show how these results should be assembled. The intelligent analysis of the annual reports of a company is so important to the investor, whatever kind of company he may be interested in, that we will next take up some typical illustration and see exactly how it is done. The company selected for consideration is the Chesapeake and Ohio Railway Company. The rest of this chapter consists largely of one of a series of articles published by the author of the *Railway World* in 1907 and 1908. The purpose in selecting this period for comparison will be evident when the end of the chapter is reached. It illustrates the degree to which the investor can prophesy the effects of panics, depressions and industrial prostration upon the fortunes of a corporation.

168. *Brief history of the Chesapeake and Ohio.*—If the romances of American railways are ever written, few systems east of the Mississippi River will be able to offer to the reader such an interesting and varied story as the Chesapeake and Ohio Railway Company. Almost every stage of its development has been dramatic, and in the main vicissitudes through which the property

has passed, some of the foremost figures in American history have been intimately involved. The beginnings of the Chesapeake and Ohio were humble. Organized as a short local road intended to develop Tide Water, Virginia, and to connect one of the richest sections of the South with the Atlantic seaboard, it was gradually extended until it reached the foothills of the Alleghenies. It was at this time that Collis P. Huntington, fresh from his triumph of the construction of the Southern Pacific, when casting about for a road which would serve as an eastern section of an ocean-to-ocean railway, secured control of the Chesapeake and Ohio, and announced his intention to control a line from San Francisco to Newport News by the way of New Orleans, with the Southern Pacific as the western part of the system and the Chesapeake and Ohio as the eastern section. In order to carry this through, he contemplated the construction of a line from Huntington, West Virginia, located on the banks of the Ohio river, to New Orleans. The failure of Mr. Huntington's transcontinental project, while it involved ruin and bankruptcy to the security holders of a number of roads, was of immense benefit to the Chesapeake and Ohio, because out of it came the construction of the lines to Cincinnati, Ohio and Louisville, Kentucky, which gave the system foothold in the Middle West and enabled it to command its share of the through business. The growth in the mileage of the road since this time has been confined almost entirely to the better development of the territory which Mr. Huntington had included in the system. Each year has seen the construction of a substantial branch mileage opening up new sections and contributing a large volume of traffic to the system.

169. *Easy route of the main line.*—The Chesapeake and Ohio is unusually fortunate in possessing one of the easiest routes to the East, from an engineering standpoint, of any of the trunk lines. No system, with the exception of the New York Central, which by following the line adopted by the Erie Canal, secured an almost water grade line from the Lakes to the seaboard, possesses such easy and uniformly favorable gradients. For more than half the distance to Cincinnati, which is the western terminus, the main line of the Chesapeake and Ohio traverses the valley of the James river, taking advantage of the pathway which this river has worn through the eastern range of mountains, hemming in the great valley of Virginia. Leaving the valley at Clifton Forge, the line strikes boldly through the Alleghenies, and by a series of tunnels, and with great engineering ingenuity runs for eighty miles through some of the wildest country in the East. At Hinton Valley the New river is encountered, and the road, again taking advantage of the work which nature has done, follows this stream closely until it joins the Ohio. Because of this fortunate coincidence by which two great streams, originating within a short distance of each other and flowing in diametrically opposite directions cut through the foothills lying on both sides of the main ridge of the Alleghenies, the Chesapeake and Ohio possesses unusually favorable grades, and is able to concentrate adverse conditions within a very few miles of line. The importance of this from the standpoint of operation cannot be overestimated. As we have already pointed out the Chesapeake and Ohio and the Norfolk and Western have accomplished unheard-of results in developing resources which are badly handicapped by their great distance from the market, and

have been able to handle traffic at rates which would prove ruinous to any road not blessed with good management. In carrying out this policy the largest assistance has come through the increase in the train load, which more than all else, makes for economical operation. The Chesapeake and Ohio has been fortunate, therefore, in possessing low grades over the greater proportion of its system and it has been put to small expense to secure the same favorable gradients as those which have cost its northern competitors so much.

170. *Change in the road's traffic.*—The Chesapeake and Ohio furnishes one of the most striking illustrations of changing traffic conditions to be found in the East. Originally the line depended largely upon the through business to and from the West for its support. Its entrance into the Ohio Valley brought about violent rate wars, and since that time the road has been almost constantly involved in rate wars and traffic difficulties growing out of the intense competition over the through competitive traffic. In addition to its longer route, the system was handicapped by the relatively inferior steamship service which it offered to European ports as compared with that prevailing in New York and Boston, and by its inability to reach the more important traffic centers, such as Chicago and St. Louis on as favorable terms as its competitors, forced as it was to rely upon the western connections of other systems for an entrance into these cities. The road, secured, however, a large amount of grain, flour and merchandise traffic, although it was forced to handle this business at unusually low rates.

The constantly increasing attractiveness of the transportation facilities furnished by New York told heavily against the Chesapeake and Ohio. The revo-

lutionary technical improvements made by the more northern trunk lines and the development by them of close working arrangements with the western systems, together with the shifting of the area of wheat production farther to the north, proved a hopeless handicap to the southern lines, with the result that both the Chesapeake and Ohio and the Norfolk and Western found their through business constantly diminishing. The growth in the earnings of the road would, therefore, have been meagre had it had been for the unexpected development which occurred in the territory immediately contiguous to the Chesapeake and Ohio.

An examination of the traffic statistics of the property is most interesting, in that they clearly show how the fortunes of the road are being more closely linked each year to the bituminous coal industry of Virginia and West Virginia. While the live stock business decreased from 61,272 tons in 1900 to 21,768 tons in 1907, and while the grain traffic showed the same tendency, decreasing from 630,641 tons to 451,653 tons, the tonnage of bituminous coal increased by leaps and bounds, growing from 4,116,970 tons in 1900 to 9,896,-746 tons in 1907. The only other important item of traffic showing a correspondingly rapid increase was the lumber business, which grew from 453,985 tons to 1,833,980 tons. The merchandise business relatively decreased, while the coke traffic showed an actual loss, dropping from 562,427 tons in 1900 to 457,000 tons in 1907.

171. *Decline of through business.*—The lessons to be drawn from these figures are important. If the Chesapeake and Ohio had been forced to rely upon its through business and upon an ordinary local merchandise movement, the system would have had an almost

stationary traffic. Even in spite of the drastic reorganization through which the property have been put, its load of fixed charges was heavy, and under such traffic conditions the outlook for the stockholder would have been most gloomy. The total traffic in 1900 was 9,746,840 tons. At the date of the last annual report it had increased to 16,866,865 tons. The total increase in business during the seven years was, therefore 7,120,-025 tons. In this connection it is rather astonishing to reflect that the increase in the traffic in bituminous coal and in lumber over this period was 7,159,000 tons, or 30,000 tons more than the total growth in the company's business. In other words, the combined growth in the local business of all other classes of commodities was not sufficient to offset the decline which occurred in the through business. Of the total increase in business 5,780,000 tons, or 81 per cent, is represented by the growth in the coal traffic.

The lumber traffic grew because of the encouragement which the road extended to it, by low rates and superior facilities, and because of the high prices and seemingly inexhaustible market existing in the populous districts of the Atlantic coastal plain. The increase in the coal traffic was not so easily accomplished. The Chesapeake and Ohio, and the Norfolk and Western, which is its nearest neighbor, is at a heavy disadvantage in competing for the bituminous coal markets of the East. The fuel of the southern fields, while superior in quality, is very remotely situated and the making of the market for it is at best a difficult task. The wonderful progress which the officials of the Chesapeake and Ohio and the producers along its lines have made towards capturing the eastern market is one of the most notable traffic achievements in recent years. Since the road is

already so largely dependent upon this business for its support and since its future is so clearly linked with this industry a review of the methods by which the company's officials accomplished this growth is of interest to the security holders.

172. *Growth in coal business due to wise management.*—The success of the campaign to introduce West Virginia coal, into the northern markets is largely due to the wonderful results which the Chesapeake and Ohio met with in inducing the operators along its lines to combine for purposes of mutual benefit. While most of the coal carriers were struggling with the baneful effects of unbridled competition between the producers on the various systems, the Chesapeake and Ohio succeeded in inducing almost every operator of importance on its lines to join in establishing a joint selling agency known as the Chesapeake and Ohio Coal Agency Company. This company was one of the most influential means by which the Chesapeake and Ohio was able so materially and so rapidly to increase its tonnage.

The organization of the coal agency company was exceedingly simple. Although inspired by the railroad company, it was largely under the management of the coal operators. The Chesapeake and Ohio Coal Agency Company made contracts with the various operators, usually for a period not exceeding one year, which provided for a rating of the various mines included in the combination, and a percentage division of the market based upon this computation. The coal agency company became the selling organization for all of the coal produced by its members at a uniform price, fixed by the majority. The agency proportioned its orders among the members of the company on the basis

of the relative proportion of the total orders and the maximum output of the combined enterprises. It will be seen that this combination had none of the objectionable aspects of a trust. The interest of the railroad company was at best indirect and extended only so far as to enable its producers to make the most of the opportunities which were presented to them, and to develop the largest amount of tonnage which could be consistently done. The Chesapeake and Ohio strictly maintained its position as a common carrier and charged to all shippers an equal rate and gave to none any special privileges. The coal agency, therefore, was a means of increased benefit to every coal producer on the lines of the Chesapeake and Ohio, because by pooling the efforts of so many producers it was able to pursue a more energetic campaign for new markets, and to force its product into popularity with greater rapidity than the several operators could have done had they worked as individuals.

The Chesapeake and Ohio was unusually successful in harmonizing the inevitable differences and bickerings which were bound to develop under such a loose organization and the Chesapeake and Ohio Coal Agency Company was able to renew its contract without much difficulty until 1901. In that year a large number of the operators believing that by seceding they would be able to secure a larger percentage of the business than they could get under the coöperative arrangement, withdrew from the coal agency company and organized the New River and Kanawha Coal Company, with a subscribed capital of $200,000. This company was formed by a large number of the operators in the New River and Kanawha districts and comprised a large part of the tonnage of the Chesapeake and Ohio Railway.

The new organization followed closely the model of the coal agency company, each member-company maintaining its separate identity and operating its own property. The corporation was officered by the officials of the most important members and its operations have been highly successful.

173. *Road purchases coal company.*—Although it was feared for a time that the creating of the New River and Kanawha Company would act as a disturbing influence in the Chesapeake and Ohio coal territory, and would obstruct the missionary work which was being carried on in the interest of the product of this region, these fears have proved groundless, for the two companies work in comparative harmony, and their attack has been directed rather at the producers of other sections than at each other. The Chesapeake and Ohio, however, realized that its hold over the producers on its lines was hardly sufficient to enable it to enforce its program of harmony and united action for the benefit of all in times of falling prices, and of curtailment in demand. As a consequence the officials of the company, in September, 1905, purchased the stock of the Western Pocahontas Corporation, which controls about 30,000 acres of coal and timber land on the line of its Piney Creek extension, paying therefor $250,000 in cash, besides guaranteeing $750,000 of the Western Pocahontas Corporation's 4½ per cent bonds.

It was indeed an achievement to rejuvenate a railroad by modernizing and improving its property, and thus to earn dividends for its stockholders. But when this must be accomplished under conditions which demand the creation of new business to take the place of what through the force of circumstances is slipping away from it, the achievement is monumental. If the

officials of the Chesapeake and Ohio have nothing else to offer as a result of the years of their labor than the wonderful development of the coal business along the company's lines they have done sufficient to earn the approbation of the stockholders.

174. *Technical improvements of recent years.*— The work of developing traffic is not the only problem which the officials of the Chesapeake and Ohio have successfully solved in the last few years. Their success in the movement to make a market for the soft coal depended upon cheap transportation, and low rates could only be given by securing the highest technical efficiency for the system. The average trainload of 225 tons in 1890 had been increased to 325 tons in 1896. This was made necessary by the constant fall in the rates, the average rate per tone per mile on coal falling from .339 cents in 1890 to .253 cents in 1896.

175. *Successful operation under heavy handicaps.*— The return of industrial prosperity in the late nineties it will be remembered, did not mark the beginning of profitable rates for the railroad. The Chesapeake and Ohio although handicapped by an equipment and roadbed inferior in point of technical efficiency to that of the northern roads, was forced by its natural disadvantages to meet the lowest rate named by any trunk line on coal to the seaboard, so that in 1899 the average rate on eastbound coal upon this system was .221 cents per ton per mile. In other words, at the time that the Pennsylvania put through the community of interest plan, the Chesapeake and Ohio was carrying a ton of coal five miles in order to earn one cent! No railroad in the United States has ever successfully operated under such very low rates. The achievement of the officials of the Chesapeake and Ohio in operating their

property during this year at a ratio of 63 per cent, paying the fixed charges upon the bonded debt and earning $663,000 surplus is one of the most remarkable accomplishments in the annals of our railroads.

176. *The development since 1899.*—With the upward movement of freight rates, which began in 1899, the Chesapeake and Ohio entered upon a period of considerable prosperity. Realizing that the future of the property depended upon high technical efficiency, every effort was bent toward this end. In 1896 less than half of the road was laid with rails exceeding in weight sixty-two pounds to the yard. In 1906 less than 15 per cent of the road was laid with rails of this weight; while almost half of the line, including practically all of the sections on which heavy traffic is found, has been since laid with rails exceeding in weight eighty-five pounds to the yard.

This wholesale betterment work explains the large 'maintenance of way' expenditures of the company which for a considerable period averaged over $2,500 per mile. These liberal expenditures were in a sense necessary because every other road in the same district was pushing up its standard, thereby making possible more economical operation. The increase in the capacity of locomotives kept pace with track improvements, the average tractive power in 1906 being 27,935 pounds.

Detailed statistics concerning this item of maintenance are not available, but the increase in the tractive power, or in other words, in the pulling capacity of the locomotives, showed that a steady improvement had been taking place.

As a result of these improvements together with the many revisions of grades and the elimination of curvature, the trainload steadily rose, jumping from 325

tons in 1896 to 586 tons in 1906. The results of these technical improvements are apparent when it is remembered that the company, while barely able to make both ends meet with a rate per ton per mile of .426 cents in 1896 earned a profit of 7½ per cent on its stock with a rate of .420 cents in 1906. Looking at it from another point of view, the company while enjoying a growth of $14,000,000 in gross earnings in ten years, was able to show an increase of $6,000,000 in net earnings and an improvement of nearly $4,500,000 in net profit.

177. *Conservative financial policy.*—This remarkable showing was due in part to the conservative policy which the company pursued in reference to capitalization. The bonded debt of the property was slowly increased, growing from $96,831,000 in 1900 to $109,520,000 in 1906—an increase of $12,707,000 or approximately 13 per cent. This growth in capitalization is exceedingly moderate, since it was accompanied by an increase in the company's traffic amounting to 56 per cent. The company's mileage was slowly increased, growing from 1,360 miles in 1896 to 1,793 miles in 1906. The larger part of this increase is represented by the many short branches which have been added, year by year, for the purpose of developing new coal areas, and to more fully exploit those which were already tributary to the system.

178. *Financial outlook.*—The gross earnings of the property for the year ending June 30, 1907, were $19,974,860 from freight traffic, and $4,886,000 from passenger business, which together with the miscellaneous income gave gross earnings of $25,797,000. The operating expenses consumed $16,650,000, leaving net earnings of $9,147,000. The company received miscel-

laneous income of $244,000, giving it a gross income of $9,391,000. From this was deducted $4,234,000 as interest on the bonded debt, taxes, interest on equipment trust, rentals on leased lines, and losses on the Chesapeake and Ohio grain elevator. The net income of the property was, therefore, $3,393,000. From this the company made payments amounting to $1,337,000 on account of the principal of the equipment trust obligations falling due; appropriated $1,347,00 for extraordinary expenditures for improvements and new equipment; paid $19,800 into the Green Briar railway sinking fund and disbursed the annual dividend of 1 per cent, calling for $628,000. This left the company a balance of $61,000, which was transferred to the credit of profit and loss.

The question naturally arises in our minds as to what would be the extent of the inroads upon the earnings which the company would suffer in periods of financial depression. If we may judge by the experience of the past it is very unlikely that the tonnage offered to the road would show any severe curtailment. In the years from 1893 to 1898, which span an industrial depression, the traffic offered to the road steadily increased, every year showing a substantial growth over that of the preceding period. This movement was so pronounced, that the road was able to show an annual increase in its freight earnings in spite of a decline in the average rates. The only decline in revenue which the company experienced occurred in the case of the passenger business, the earnings for 1895, 1896, 1897 and 1898 falling below the amounts turned into the company's treasury from this source during 1894.

179. *Safety of the company's bonds.*—The Chesapeake and Ohio was one of the few railroads which was

able to report to its stockholders, year by year, during the industrial depression from 1893 to 1897 a constant and steady increase in its net income. As a result of this the company was able to weather the storm which wrecked most of the other trunk lines depending on the soft coal traffic, and met its fixed charges without default. On the basis of this showing it is exceedingly unlikely that much question would be made as to the safety of the interest on the bonds of this corporation, particularly when it is borne in mind that the fixed charges of the company, after the amount necessary for taxes has been deducted from the net income, are considerably less than 50 per cent of the surplus income.

180. *The dividend and its stability.*—The Chesapeake & Ohio began the payment of dividends in 1900 and the rate, which was established at 1 per cent, was continued unchanged until June, 1909, when it was raised to 4 per cent a year. Although much opposition developed during the nine years to the payment of such a small dividend when the company was earning several times the amount, the wisdom of such a policy for the first part of that period, at least, is generally acknowledged. Although the coal traffic of the Chesapeake and Ohio is founded upon a business which is now well established, yet it is generally believed this road would feel the shock of any set back or demoralization in the trade to as great an extent as any of the eastern carriers. It must also be borne in mind that while the profile of the road shows unusually favorable grades, a considerable amount of work could profitably be done looking towards a further increase in the trainload.

The safety of the dividend on the company's stock is a matter depending upon its ability to maintain rates within reasonable limits or to offset any considerable

decline in earnings by a corresponding reduction in operating expenses. Judged from the experience of the past it is unfair to presume that the traffic offered to the Chesapeake and Ohio will be likely to show any material decrease in volume, and the only apprehension from this source can concern the permanency of paying rates. The close harmony existing among the soft coal carriers, the strength and solidarity which has been imparted to the bituminous industry by the creation of a large number of influential corporations, officered by men of wisdom and acumen, together with the impressive object lesson of a steady maintenance of rates during the last five years in spite of a decline in the wholesale prices of coal, should be sufficient grounds to bear out the conclusion that the trunk lines will be able to maintain their rates within reasonable limits even under the most adverse conditions. Even a reversion to the rates of 1899 would only decrease the freight earnings of the Chesapeake and Ohio $1,575,000, and if we add to this a drop of 8 per cent in passenger earnings, or $390,000 (representing the proportion of decrease occurring in 1895 as compared with the preceding year), we see that the maximum decrease in the income of the property which could be expected would only be $1,964,000. If the management were to effect a cut of 10 per cent in operating expenses they would be able to entirely offset this shrinkage in income, or if a temporary cessation was made in the appropriation for extraordinary expenses for improvements and new equipment, there would only be left a balance of $627,000 to be provided for in this manner.

So long as the rates can be maintained there is certainly little likelihood of a dangerous decrease in earnings. The Chesapeake and Ohio has always pos-

sessed an exceedingly stable business, and the only difficulties which the company has ever encountered have revolved around the question of rates. With this stumbling block removed there is every reason to believe that the dividends on the property will in the near future be increased rather than diminished.[1]

It is easy to prophesy if there is no immediate prospect of having the prediction verified. The accuracy of the conclusions made in 1908 can now be clearly established. The company has gone through the worst of the recent depression and the volume of traffic and of earnings has now returned to almost normal conditions. Every prediction has been fulfilled. Dividends were continued and increased and reasonable provisions for maintenance were made. This illustration serves to show the possibilities of ascertaining the condition of a company by careful analysis of its reports.

[1] The reader should bear in mind that the foregoing analysis of a railroad report, presented in this chapter as an illustration, was written by the author in 1907.

CHAPTER XX

PUBLIC SERVICE BONDS

181. *Considerations affecting values.*—The most important consideration affecting the value of public service corporation bonds, i. e., bonds of street railways, inter-urban railways and gas and electric companies, is the character of the franchise secured by the company. All these corporations obtain a charter from the State defining their rights, duties and privileges, and a franchise is granted them to carry on certain operations within the community they are to serve. The life of this franchise is usually limited, its duration varying with different states and different companies. From the nature of the operations of a public service corporation, it is usually necessary to obtain the consent of property owners to pass over their property, and this consent may be compelled by condemnation proceedings if the interests of the public require such action.

A great many corporations operate under perpetual franchises, though there is a growing public sentiment in favor of the limited franchise. The long time franchise is, of course, best as far as the investor is concerned. A public service corporation serving under a limited franchise should provide a sinking fund when issuing bonds, so as to substantially reduce its indebtedness by the time the franchise expires. Long term franchises that are subject to the control of the government as to rates and service, would probably prove most satis-

factory to the bondholder, to the stockholder and to the public.

A more detailed study of the franchise question and its relation to capitalization will be taken up in a later chapter. A valuable statement of the other leading factors which have to do with the values of public service securities was made by Mr. Allen G. Hoyt, in a special lecture to the class in Investments of the New York University School of Commerce, Accounts and Finance:

Ordinarily, it is not a good plan to buy the securities of a corporation serving a small community. A community of 100,000 is set as an approximate limit by some people, but no hard and fixed rule can be laid down. I know a great many corporations, operating in communities of 50,000 population, the securities of which are perfectly safe. It is well to avoid too small a community because some accident may cause trouble and affect the ability of the company to pay the interest or principal of its bond issues. In the case of one inter-urban railway I have in mind, there was a serious accident in which a great many people were killed; numerous damage suits were started, and for a long time, while fighting these suits, the company had great difficulty in meeting its obligations.

In buying the bonds of a public service corporation we should look into the character of the community to about the same extent as when buying municipal bonds, and we should give the same consideration to the nature of the people, the nature of their industries, and questions as to whether the community is substantial and good. Generally speaking, public service corporations in comparatively small communities, of 50,000 population or less, should have gross earnings amounting to about five times their fixed charges.

The value of the property is important. Usually, in buying public service corporation bonds, we have an appraisal by expert engineers, which gives the replacement value of the

property. It may be found that this is not much in excess of the bond issue, and yet the bonds may be perfectly safe, because the good will and franchise rights should also be taken into consideration. If there were a foreclosure, a great many people would come and buy the property, paying more than the mere replacement value because (I am assuming that it is a desirable locality) there is a great deal of profit in the operation of a public service corporation. In a new proposition, we usually require that the property represented shall cost more than the bond issue by a safe margin; in old properties, this question is not important, because there we always have the earning power of the property in addition to its actual value.

There should usually be provided a sinking fund which will substantially reduce the indebtedness at the expiration of the franchise, and even in the case of companies operating under a perpetual franchise we often require such a sinking fund. In public service corporations operating in or near a city like New York, where the population is bound to grow within the next twenty years, it is not so important that a sinking fund be provided to reduce the indebtedness, because the property instead of growing less valuable, will be growing more valuable all the time.

Public service bonds have ordinarily a very limited market. The issue, even in case of towns of 50,000 or 100,000, is usually not over $5,000,000 and will probably be handled by one or two banking houses. If you buy such bonds and then want to sell them later, you would find difficulty in obtaining a purchaser except through the house from which you purchased them. These banking houses can, and will, convert these bonds into cash for you, and are ready to loan money upon them, but still you cannot say that such bonds have the same market as railroad bonds which are part of a $100,000,000 issue and are sold on all the important stock exchanges. Although such bonds have a limited market, they bear a higher rate of interest than do the standard municipal or railroad bonds. The latter generally yield about 4 per cent, whereas the public service cor-

poration bonds, the security of which there can be no question, will yield about 5 per cent.

Public service bonds enjoy a certain advantage in that the record of earnings of public service corporations during periods of depression tend towards stability even to a greater extent than is the case with railroads. For the year ended June 30, 1908, street railway companies, lighting companies and gas companies suffered a very moderate decline in earnings (in general), whereas railroad companies suffered a decline of from 10 per cent to 25 per cent; telephone companies actually increased their earnings during this period; i.e., companies operating under the Bell system. Normally speaking, the securities of public service corporations will increase in value, because the population of our cities is generally increasing. Generally speaking, public service corporation securities, if properly selected, offer a safe investment.

182. *Gas company bonds.*—Gas companies furnish what is now a public necessity, and in view of the increasing use of gas for fuel, it is more of a necessity than it ever was. Flat and apartment houses are equipped for gas, not only in New York, but in a great many moderate sized towns as well. The demand is constant and ordinarily increases with the increase in population. In the case of gas companies serving moderate sized towns, it is well to have the debt bear a proportionate relation to the cost of the property. Gas companies are not perhaps subject to the danger of competition as are electric companies on account of the heavy cost of the initial installation. Sometimes a gas company meets with local difficulties. One company in a fair sized town in the West could not get its coal one winter to make the gas. It was dependent on the Northern Pacific Railway, from which it could not get the coal it needed, and was therefore unable to

supply the gas and lost its franchise. Other companies suffer from cheap electricity. The ideal way is to have the same company own the gas company, the electric company and the street railway company.

183. *Electric light bonds.*—This class of securities is growing in favor. Formerly investors believed an electric company did not have much tangible property. The actual property which it has invested in a generating plant is a small part of the property which it owns as a whole. It may be bonded for $1,000,000, and have a plant worth $200,000, the rest of its property being represented by wire and distributing instruments of different kinds which is not considered as very good security for a bonded debt. But after all it is earning power which determines value, continued, substantial earning power, and the electric companies have that. It has become more and more difficult for competition to develop in the case of a strongly intrenched company. This company in power is in a better position, has the business and if charging a reasonable rate need not fear any possible competitor.

Speaking of this class of securities from the investment point of view Frank A. Vanderlip, president of the National City Bank, of New York, recently said:

> Electric light securities are among the most recent types of investment upon which the public has been called upon to pass judgment. As recently as five years ago, the most conservative of bond houses declined to handle electric light securities, or at least found great difficulty in marketing them, unless exception might be made in the very few cases of large companies in the great cities. The ordinary plant in a city of 50,000 or 100,000 people did not offer a form of security sufficiently tried and seasoned to attract conservative investment houses to its exploitation. When we note that the total investment in electric light

plants has now passed well beyond the billion dollar mark, and remember that five years ago there were some 4,000 companies with a total investment of perhaps $700,000,000, that statement is surprising. But even to-day with more than $1,000,000,000 of investments, the number of electric light securities that are found on the bond lists of any of the great Exchanges is surprisingly small.

Investors have hesitated to give full confidence to such securities because of reasons inherent in the nature of the business. Up to five years ago, the technical development had been so rapid that the method and cost of production did not settle down to any thing like a standard rate. No one knew what moment some genius might come along with a new invention in dynamo or lamp that would make scrap of the best plant thus far erected. The most improved machinery was turned into scrap more rapidly in the electric lighting business than in almost any other field, and that sort of thing is distinctly discouraging to a bondholder. The comfort of any investor was likely to be disturbed by the prospect of a competitor dropping into the choicest part of any existing company's field and producing current by improved methods more cheaply than than the old company could produce it.

These difficulties are now in a rapidly increasing measure being removed. The methods of production are being standardized. The growing demand that wires be run in conduits, and the acquisition and control of conduit systems make both legitimate competition and raiding by companies organized only for that purpose much more difficult. Further than that, the clearness with which the public is coming to recognize that its rights are best safeguarded by granting monopoly privileges, and then subjecting the monopoly to reasonable regulation is a safeguard which the investor recognizes and appreciates.

CHAPTER XXI

ELECTRIC RAILWAY SECURITIES

184. *Originally many small companies.*—A proper comprehension of the value of the various securities issued by the street railways of our large cities depends upon understanding the conditions under which these were issued, and the relation which they bear to the various other classes of stocks and bonds covering the same systems. The beginnings of the city street railways were small and insignificant. The first stages of their development was characterized by the existence of a large number of small companies, each of whom had securities outstanding, and each of which was actively competing with the other. One of the most noteworthy things concerning the street railway business is the fact that comparatively few bonds have been issued, most of the securities being stocks.

In Philadelphia, for example, there were sixty-five separate companies chartered at various dates, each actively competing for the business which is now included in one system. The same situation existed to a greater or less degree in practically every other city of the country. These early years were ones of strong competition, sometimes companies being forced into bankruptcy as a result of highly competitive conditions. The multiplicity of companies was unsatisfactory to the public because of the necessity of paying several fares to travel a short distance. The evils of competition were quickly realized and generally de-

plored by those connected with the industry. Because of these evils a movement was started at an early date for consolidating the small lines. This movement in most cases followed certain well defined courses. The first step was the absorption of the smaller lines into a few systems. This did not eliminate competition but rather reduced it to a struggle between three, four or five companies, as the case might be, for each was endeavoring to achieve its supremacy by encroaching upon the territory of other lines. As a consequence the early efforts minimized, but did not remove the difficulties of competition.

185. *The basis for consolidation.*—The next step was the consolidation of these larger companies into one or more corporations. Sometimes this consolidation was made directly into one company. In other cases it progressed more slowly, requiring several changes before the final result was secured. At the present time, however, in practically all of our large cities there is one large company which operates the entire street railway system.

The factor which, more than anything else, made possible this general welding together of the numerous street railway lines, was the rapid and continuous growth in earnings. The street railway business is one which illustrates the law of increasing returns perhaps better than any other industry. One of the most important facts in history of our country during the last fifty years has been the remarkable growth of our large cities. The enormous increase in the number of manufacturing industries and the volume of their products and the rapid expansion of all businesses which indirectly depend upon them, such as the banking business, shipping and transportation business, has

turned into the large cities an enormous population recruited to a large extent from the country districts. This growth in the city population is the real basis for the prosperity of the street railway system. Every additional inhabitant of a city makes an added customer for the street railway. The consequence has been that in every case the traffic of the street railway grows steadily and rapidly year after year.

186. *Technical economies from consolidation.*— Along with this growth in traffic has come, at the same time, economies of operation which were undreamed of by the early pioneers in this field. The introduction of electricity as a motive power, for example, made it possible to move cars with a small fraction of the expense which was involved in hauling them by horses, both because of the cheapness of the power and the fact that two men—a motorman and conductor—could handle cars containing two to three times more people than could be carried when horses were relied upon as a motive power. These technical economies of operation were supplemented by the great advantages which arose from consolidation such as the standardization of repair work, the removal of waste by the concentration of work in the shops which were best fitted for its performance, and the cutting off of expensive salaries by the elimination of many positions.

The third gain came about through the elimination of competition. Wasteful wars for traffic were ended and in their place came monopoly conditions. Street railway systems could now adjust their service so as to handle the traffic most economically, furnishing just sufficient cars to move the business. In many cities this has been carried so far that a portion of the riding public has been forced to stand at all hours of the day,

cars being taken off during slack hours and added again in the rush periods.

The result of these economies, together with the constant increase in the traffic, has been a large growth in the volume of net earnings. These, as we shall see, were used as the basis for the consolidations. Some idea of the extent of the savings which were effected and the changes which took place can be gained by a comparison of the condition of the Union Traction Company of Philadelphia from 1893 to 1898 or the first five years following the consolidation of the roads in that city into one system:

Fiscal Year	Gross Earnings	Operating Expenses	Net Earnings	Ratio of operating expenses to gross earnings
1893.....	$ 8,691,923	$5,556,991	$3,134,932	64%
1894.....	8,431,105	5,431,515	2,989,590	64%
1895.....	9,848,270	5,916,477	3,931,793	60%
1896.....	10,759,705	5,707,435	5,052,270	53%
1897.....	10,907,451	5,260,583	5,646,868	49%
1898.....	11,236,437	4,619,375	6,617,062	41%

187. *Consolidation through merger.*—There have been three methods generally used, in effecting the consolidation of the street railway systems. These are the merger, the lease and stock ownership. The simplest form of combination is by merger. One company will purchase the other outright, issuing its own securities in exchange for those of the company which it is about to extinguish, or a new corporation may be formed which will buy outright several companies. This method of consolidation has been used to a large extent in the medium sized cities, particularly in the West.

Several important benefits are inherent in this method. One of the most important is the simplification of the financial structure of the system which

follows. Instead of many issues of securities, as we have in some of the older eastern cities, there are a few issues, each of whose privileges and rights can be ascertained with reasonable facility.

The merger was made possible, in many cases, by the fact that those of the passenger railways which had issued bonds, put them out for short periods and reserved in the mortgage the right to call them upon short notice at specified prices. Under such conditions it was easy to retire the obligations of the old companies. This was generally done by calling the bonds of the old company and at the same time offering either to exchange them for bonds of the new company (in many cases at a lower rate of interest) or to buy them for cash. A large percentage of the bondholders usually preferred to elect the former alternative. One of the best illustrations of the resulting simplification of the financial structure which the use of the merger brings about is furnished by the street railways of Buffalo. The consolidation of the system began with the incorporation of the International Traction Company in 1899 which operated a large number of the street railways in and about the city until 1902. In that year the owners incorporated the International Railway Company and proceeded to consolidate into it all of the constituent companies which it owned and some which it had recently purchased. This brought all of the properties under one ownership and one operation. The bonds of the underlying companies were called and paid for.

In a large number of cases the consolidation by merger was made at too great cost, imposing an overwhelming financial burden upon the properties. The difficulty arose because of the high prices which had to

be paid for the stock of the constituent companies which brought about very heavy fixed charges for the new corporation. It is almost invariable in any consolidation that the fixed charges of the company will be increased. In most cases, however, the added load has been more than offset by the increase in the earnings and the savings which have been brought about through the unified control. If the exchange is made upon an extravagant basis, however, disaster is inevitable. The history of the street railways of New Orleans, with its endless procession of foreclosures and receiverships is an illustration of the danger and disadvantage of the merger where the capitalization has been made upon a too liberal basis.

188. *Consolidation by lease.*—The second method of consolidation is by lease. Most of the illustrations of this method are to be found in the eastern cities. In many states, for example Pennsylvania, this method was the only one possible until 1901, for the laws prevented the merger of companies on the theory that it was against public policy to allow the creation of monopolies. The laws, however, in practically all states permitted the leasing of one street railway to another or to companies formed for the purpose of taking over the control of a number of existing companies. In general these restrictions are gradually being eliminated, for it is recognized that they do little good and often lead to harm. A good illustration of a system which has been built up through leases is that of the American Railways Company with headquarters in Philadelphia. This company controls an extensive system of street railway lines in the eastern section of the United States, consisting of scattered lines. The Philadelphia Rapid Transit Company of

Philadelphia which is the present operating company controlling all of the lines of the city, has been created by unifying many underlying roads through long time leases either at guaranteed rentals or on a sliding rental proportioned to the net earnings. The terms of all street railway leases are substantially the same. They provide for the payment by the lessee of the interest on the bonds of the lessor and all of its other fixed charges, such as taxes, insurance, etc., and in addition usually call for a dividend on the stock of the leased company. In a large number of cases this dividend increases according to a fixed scale over a series of years until it finally reaches a maximum several years after the execution of the agreement. This sliding scale is interesting. It is merely the discounting of the possibilities of the future by the controlling company. In many cases this company is willing to give to the stockholders of the road to be absorbed all of the advantages of increased earnings which will be derived during the first few years of the lease. It hopes to be able to more than offset this concession by the improvement in earnings which will accrue during the remainder of the lease.

Unlike the merger, the lease allows the subsidiary companies to maintain their corporate existence. This is in some cases of particular advantage and oftentimes perpetuates certain guarantees or privileges which can only be preserved in this manner. The dangers of this method of consolidation lie in the payment of exorbitant rentals which in some cases, in addition to the interest on the bonded debt, have been as high as 70 per cent per annum on the original capital invested in the property of the lessor. Illustration of the profits which frequently go to the fortunate holders of the

stock of the leased companies is furnished by the following comparison selected from some of the underlying companies in Philadelphia:

	Capital	Amount of Rental	Percentage of Rental to Capital
Citizens Railway Company	$ 500,000	$140,000	28%
Frankford and Southwark	1,875,000	675,000	36%
Germantown	1,500,000	157,500	10½%
Philadelphia City	1,000,000	150,000	15%
Ridge Avenue	600,000	144,000	24%
Second and Third	1,060,200	254,000	24%

The second difficulty, sometimes arising in the case of the lease, is the absence of any provision by which the lessor company can be required to issue securities to provide the necessary funds for new improvements in order to keep the property up to the standard required by the business which it is called upon to handle. Under such circumstances, the lessee is practically compelled to increase its own liabilities to provide funds which eventually go to the benefit of the lessor.

189. *Consolidation by stock purchase.*—The third method of consolidation is the purchase of the stock of operating companies by a holding company for the purpose of securing control. There are several advantages which are inherent in this method. Absolute control may be had through the ownership of a bare majority of the stock of a subsidiary corporation. It is not necessary, therefore, to purchase all of the securities of the company as would be the case with the merger. This makes possible the consolidation of the systems with the use of a much smaller amount of money. One of the best illustrations of this method of consolidation is that furnished by the Interborough-Metropolitan Company of New York. This company was formed to create an absolute monopoly of the facilities of the elevated, subway and surface

lines of New York which at the date of its formation (1905) was under the control of two companies, The Interborough Rapid Transit Company and the Metropolitan Securities Company. The latter, in turn, controlled the Metropolitan Street Railway Company. The total capitalization of the old companies was $167,000,000. In the merger this increased to $213,000,000. The basis of the consolidation was the exchange of $35,000,000 of the Interborough Rapid Transit stock for $70,000,000 of 4½ per cent gold collateral trust bonds, secured by the stock which was purchased, and $34,650,000 of common stock of the new company. The $52,000,000 of the stock of the Metropolitan Street Railway Company was exchanged for the same amount of the preferred stock of the new holding company together with $28,600,000 of common stock. The Metropolitan Securities Company received for its $30,000,000 of stock $28,050,000 of the common stock of the new company. The additional load which was imposed by this reckless overcapitalization wrecked the entire system and forced a large percentage of the lines in New York City into the hands of receivers.

190. *Importance of studying methods of consolidation.*—The reason for our study of the methods by which the large street railway systems in our cities have been formed is to appreciate the cause of the great multitude of securities which exist and to understand the relations of the various companies to each other and to the parent company which operates the system at the present time.

The greater proportion of the enormous volume of street railway securities which are on the market or in the safety-deposit boxes of investors are those of the

underlying companies which were absorbed at various times by other corporations. The security of the return upon the stock of these various companies depends upon the relative claim which they have upon the earnings. The following classification of the stocks which are now outstanding, representing the ownership of the various portions of the street railway system of Philadelphia, is a typical illustration:

Name	Amount paid in	Guaranteed Dividends or paid in stock	Holding Company	
Continental	$29.	20.7%	Phila. Trac. Co.	Union Trac. Co. { Phila. Rapid Transit Co.
Phila. City Co.	23.25	31.5%		
Phila. & Gray's Ferry	25.	16. %		
Ridge Avenue	28.	42.8%		
13th & 15th Sts.	16.75	71.6%		
Union Pass.	30.	31.6%		
West Phila.	50.	20.6%		
Frankford & Southwark.	50.	36. %	Electric Trac.	
Citizens	19.40	72. %		
2d & 3d Sts.	40.	30. %		
Germantown	21.66	24. %	Peoples Trac. Co. Hestonville Mantua and Fairmont Park Railway Co.	
Green & Coates	15.	40. %		
Par value of all stock of all companies	50.			$17.50 paid in. Rate of guaranteed dividend on am't. paid in 17½%

The disbursement of the revenue of this system is easily understood. The Philadelphia Rapid Transit Company is an operating company holding all of the lines upon lease. All of the income which arises from the system goes into the coffers of this corporation. The net income, after operating expenses have been paid, must be necessarily sufficient to meet the guaranteed dividends upon the stock of the Union Traction Company and to meet the dividends guaranteed to the many corporations which formed a part of the original consolidation. The Philadelphia Rapid Transit Company in other words must see to it that the Union Traction stockholders receive their dividends, that the holders of the securities of the Philadelphia Traction, the Electric Traction and the Peoples Traction Companies are also paid the amount due, and finally it must be especially certain that the holders of the stock which represents the real title to the roads, such as the Continental Traction Company, the Thirteenth and Fifteenth, the Second and Third, and the Germantown Traction Companies are paid the amounts which have been guaranteed them. This arrangement is typical of that which prevails in most of the larger cities where the lease has been used.

191. *Relation of various classes of securities.*—In general it may be said that the securities of the pioneer companies which were merged into the first consolidations are usually beyond the reach of misfortune. They hold the first claim upon the earnings and in times of trouble would be protected in preference to the other claimants. Each succeeding class of securities which is created is weaker in point of security than those of the companies which it absorbed, for it is necessary for the holding company to pay the amounts

guaranteed to its subsidiary corporations in order to prevent the dissolution of the entire system by the abrogation of leases, in a receivership. In fact, most of the leases contain a provision that failure to pay the rental shall work a dissolution of the lease.

192. *Capitalization and earning power of street railway companies.*—Our next subject of inquiry concerns the capitalization of the street railways and their earning power. The latest and in fact the only authoritative information concerning this matter is that complied by the United States Census Bureau which was embodied in the special report on street railways issued in 1902. Any one who desires a comprehensive knowledge of street railway investments should make a study of this report.

The capitalization of the street railway companies varies greatly. The variation, however, closely corresponds to the difference in the size of the city in which the company operates. The following table, taken from the Census Report, illustrates the difference:

	POPULATION OF CITIES			
	Over 500,000	100,000 but under 500,000	25,000 but under 100,000	Under 25,000
Net capital liabilities per mile of line	$209,162	$113,026	$63,197	$38,445
Funded debt per mile of track	98,093	47,384	26,782	17,561
Capital stock per mile of track	136,123	66,932	38,366	22,358
Dividends on stock	3.1%	3.10%	1.5%	6/10%

The lessons to be drawn from this portion of the census investigation are important. The first is that the capitalization of street railways increases with the size of the city. As our cities have grown the process

of consolidation has continued, new issues of certificates being piled upon those already in existence, adding another stratum of fixed charges which eat up the increased earnings due to the larger population.

The second important lesson is the relatively small proportion of the street railways in the smaller cities which pay a dividend upon their stock. The capitalization of these lines, while conservative, as compared with that of the lines in the larger cities, is apparently too great for their earning power. As a consequence the securities of street railways in cities of less than 100,000 are usually looked upon with disfavor by investors.

This conclusion is confirmed by an examination of the financial reports of the companies in certain of the leading states. In Pennsylvania, for example, there were ninety-eight towns in the State having street railways. Only fifteen of these companies reported dividends on their common stock. This percentage, while small enough, is much larger than will be found in the case of the western states. Illinois, for example, with fifty city street railway companies reported dividends on the stock of only three companies outside of Chicago; Michigan with twenty-four cities equipped with street railways reported dividends for only three outside of Detroit; and Indiana with twenty-seven towns with street railway systems reported dividends for none of them.

193. *Proper distribution of income.*—The investor in judging of the value of street railway securities must not end his investigation with ascertaining the dividend record of the company, for it is possible that a corporation may pay dividends for a limited period of time which have been unearned. The dividends on the stock legitimately represent a portion of the surplus

earnings which remains after the actual expenses of operation have been paid, and the cost of renewals to roadway, power house and equipment have been defrayed. It is of greater importance to the owners of the property that the plant be well maintained than that a dividend be paid. Unfortunately there have been many cases where dividends have been paid by "skinning" the property. Maintenance has been entirely or partially neglected and the earnings which should have gone to the upkeep of the road have been disbursed to the stockholders. This practice soon places the property in a deplorable condition, generally ending in bankruptcy. Sometimes a corporation can be rehabilitated by diverting all of the profits for a period of time to the upbuilding of the property. In most cases, however, new capital must be secured in a reorganization necessitating sacrifices upon the part of the holders of the old securities. The proportion of earnings which the corporation should spend for each of the important items included in its disbursements varies to a considerable extent in individual cases. They should, however, approximate, in a general way, the average expenditure, which was ascertained in the census investigation to be as follows:

URBAN CENTERS, POPULATION

	Total	500,000 and over	100,000 but under 500,000	25,000 but under 100,000	Under 25,000
Gross income	100.0	100.0	100.0	100.0	100.0
Operating expenses	56.8	54.6	53.5	59.0	67.4
Taxes	5.2	6.3	5.1	3.6	2.8
Interest, total	15.2	11.9	17.1	16.5	16.2
On funded debt	14.1	11.1	16.2	15.2	14.2
On other debt	1.1	0.8	0.9	1.2	1.9
Rentals of leased lines	10.2	18.8	2.2	1.6	0.2
Misc. deductions	0.4	0.1	0.7	0.5	0.3
Dividends	6.3	4.3	12.4	6.5	2.5
Surplus	5.9	4.0	9.0	12.3	10.6

194. *Proper distribution of operating expenses.*— The greatest attention in this comparison should be given by the investor to the proportion which the operating expenses bear to the gross income. If the ratio is small it may indicate either lack of proper attention to maintenance or unusually effcient management which brings about a more economical operation than the average. In order to ascertain which of these alternatives should be accepted the investor studies the distribution of operating expenses which he usually finds given in the company's annual report. The average distribution of operating expenses as shown by the Census investigation is as follows:

Items of Expense	Percentage of total operating expenses
Aggregate	100.0
Maintenance of ways and structures, total	8.5
Track and roadway	5.7
Electric, cable, etc., lines	2.1
Buildings and fixtures	0.7
Maintenance of equipment Total	11.7
Steam plant	0.9
Electric, cable etc. plant	0.6
Cars	5.4
Electric, cable etc., equip ment of cars	3.7
Miscellaneous	0.5
Miscellaneous shop expenses.	0.6
Operation of power plant, Total	16.2
Wages	3.2
Fuel	9.0
Water	0.5
Lubricants and waste	0.4
Miscellaneous supplies and expenses	0.4
Hired power	2.7
Operation of cars, total	43.9
Superintendence of transportation	1.8
Wages of conductors	16.9
Wages of motormen	17.3

Items of Expense	Percentage of total operating expenses
Aggregate	100.0
Wages of other car service employés	1.8
Wages of car house employés	2.3
Car service supplies	1.3
Misc. car service expenses.	1.4
Cleaning and sanding track.	0.5
Removal of snow and ice	0.6
Miscellaneous total	18.1
Salaries of general officers.	2.1
Salaries of clerks	1.6
Printing and stationery	0.3
Miscellaneous office expenses.	0.5
Storeroom expenses	0.2
Stable expenses	1.0
Advertising and attractions.	0.8
Miscellaneous general expenses	1.4
Damages	5.3
Legal expenses in connection with damages	1.3
Other legal expenses	0.7
Rent of land and buildings.	0.4
Rent of track and terminals.	1.0
Insurance	1.5
Wages, supplies and expenses, incidental to electric service not elsewhere included	1.6

If the investor finds that the various portions of the operating expenses correspond, in a general way, to the ratios given above, he concludes that the company is spending a fair amount of money upon its property, and that the net earnings which it claims to have are properly available for distribution among its stockholders or for credit to the surplus account.

195. *Physical examination of property.*—The investor supplements his statistical investigation by an examination of the physical condition of the property. Most large investors have developed the ability to tell in a fairly satisfactory way the condition of the roadbed, equipment and the adequacy of power provisions, by riding over the roads. If he finds that the tracks are badly out of alignment and worn and that the company's equipment shows unnecessary signs of wear he knows that an inadequate amount is being spent upon the upkeep of the property. On the other hand if he finds that the amount spent for maintenance is very much above the average he must examine into the work which the company is carrying on before concluding that the management is wasteful. It is very possible that a large amount of reconstruction work or extensions and improvements are being prosecuted which are charged to operating expenses instead of to the capital account.

196. *Inter-urban Securities.*—The considerations affecting the investment value of securities of inter-urban lines are very different from those which influence the securities of city and street railways. The inter-urban has but little in common with the city lines except its method of propulsion and a slight similarity of equipment. The city lines possess a monopoly and perform a service in which they meet little competition

from other agencies of transportation. The inter-urban is different for it must compete with the steam railroads for its traffic, and in most cases it has been forced to make a place for itself and to create its own business.

It is difficult for the layman to make a distinction between the suburban line running through the outskirts of our large cities and the inter-urban which is a far different type of property. The suburban line either interchanges traffic with the city companies or operates their cars over city tracks.

Investments in inter-urban properties should be made only after most thorough scrutiny. As a rule, it is safe to say that there are far greater risks involved in these properties than there are in either the suburban or the city lines. This is due largely to the fact that they are built through an undeveloped country, sparsely populated and containing small possibilities of rapid settlement. The inter-urban road must depend almost entirely upon the inter-city travel, and consequently, it is open to relentless competition by the more powerful steam railroad which can meet or undercut its fares, and in many instances greatly surpass its running time. Unless the electric road is in a position to offer as rapid service as its competitor, it will have a hard time holding its own in the struggle even aided, though it is, by its more frequent service.

197. *Investment test of inter-urban securities.*— Taking a cost of $30,000 per mile as a minimum, how much must an inter-urban earn to make its financial position secure? Five per cent on the cost of construction will call for at least $1,500 per mile, or 30,000 passengers paying 5 cents each. If 60 per cent of gross earnings are devoted to operating expenses a sufficient

margin will generally be left for necessary renewals and repairs to keep the property in first class condition. Suppose the inter-urban earns $5,000 per mile, this allowance for operating expenses and renewals will require $3,000. Interest charges will take $1,500 more, and to this sum will be usually added an annual appropriation out of earnings to retire the bonds either at maturity or at intervals during their life. If $250 per mile be allowed for a sinking fund there will remain out of our $5,000 of gross earnings a surplus over operating expenses and fixed charges of $250 per mile. If our inter-urban is already in operation, showing gross earnings of $5,000 per mile, its 5 per cent bonds, even if equal to the full cost of its construction—$30,000 per mile—can be safely purchased if they are protected by a sinking fund, and its stock, although dividends cannot yet be properly paid, will be an attractive speculation with a probability of showing large returns to the holder.

So much for the securities of an inter-urban property whose earnings are already realized. In cases where bonds are offered on a line not yet in operation but which has been completed and where, judging from the experience of properties similarly situated, gross earnings of $5,000 can be expected, the investor may buy the bonds with reasonable security if these do not represent more than 60 per cent of the cost of the property. Bonds offered by companies whose railway property is not yet built, even when accompanied by a liberal bonus of stock, should as a rule not be purchased for investment, although they are often attractive to the speculator.

These suggested rules to guide the investor in inter-urban securities are by no means of invariable applica-

tion, and are subject to numerous exceptions. The investor should, furthermore, prefer the bonds of companies which own their own private right of way. Since operation over the public roads will in time become slow and costly. He should also satisfy himself that the management is experienced and above all that the service which the road offers its patrons is first class. If these few conditions are held in mind, however, the bonds of inter-urban electric railways located in a territory whose population is increasing, may be recommended as safe investments. Of course, where the cost of construction increases, the earnings required for safety must be increased above $5,000 per mile, in order to be attractive to the investor.

CHAPTER XXII

EFFECT OF PUBLIC REGULATION UPON STREET RAILWAY SECURITIES

198. *Relation of capitalization to cost.*—The question of the capitalization of street railways naturally suggests the proportion which the securities issued on each mile of road bears to the original cost of construction, or the cost of duplicating the property. This question was formerly regarded as of little importance to the investor. He cared nothing concerning the relation of capitalization to cost. The financial principle which had come to be generally accepted was that the real basis of the value of street railway properties in large cities, as in fact of almost every other class of private corporation, was not the original cost of the property or the sum required to duplicate it, but the principal sum upon which it could earn a fair rate of return. Let us take an example. Suppose a road twenty miles long cost, or could be duplicated, for $60,000 per mile. Its total cost or duplication value would, therefore, be $1,200,000. Now it is not improbable that such a road might be found to be capitalized for four or five million dollars. So long as the corporation could earn from 4 to 6 per cent on this capitalization it was accepted that the property was worth this amount. This financial principle has been receiving radical modifications within the last few years. The reason for this change of sentiment is the unfortunate experience which those companies operat-

ing under a limited franchise have encountered in endeavoring to secure a renewal of their privileges, and also to the growth of state regulation of street railways and other public utilities.

199. *Legal position of street railways.*—The legal position of the street railway, like all other public service corporations is such as to place it largely within the control of the state and city. These corporations receive a charter from the state which gives them a corporate existence and empowers them to perform certain acts incident to the proper conduct of their business. The most important rights which they receive, however, are contained in the franchise granted by the municipalities in which their properties are located. This franchise gives them the right to construct the overhead work and to lay tracks and to operate their equipment upon the city streets, and imposes upon them such terms and conditions as the city may see fit to insert for the purpose of properly regulating the operation of the road and insuring to the city an adequate return for the valuable privileges which are given.

In the case of a street railway the franchise really gives to the company the exclusive privilege of using certain streets. It creates a monopoly on these streets and when the companies are consolidated in one system, as we have seen to be the case, it usually gives to the parent operating company a complete monopoly of the city.

These franchises are generally given in one of two ways. In most of the older cities the companies possess perpetual franchises. That is to say they were given the right to lay their tracks and operate their cars in perpetuity over the streets mentioned in the grant.

In the states in the middle and far West the companies, as a rule, operate limited term franchises. In many cases provisions have been inserted in the state constitutions specifying the maximum period for which franchises may be given. Their purpose is to prevent venal legislatures from granting a franchise contrary to the wishes of the majority of the people.

200. *Cost and overcapitalization of street railways.*— The people of almost every large city have come to be intensely interested in the question whether or not the street railways are grossly overcapitalized in relation to their cost. They have seen merger succeeding merger bring an ever-increasing load of fixed charges, and giving to them few, if any, tangible improvements in service or facilities. They have come to feel that they are being taxed for the support of a large volume of securities which seem to have little or no real basis of value.

The sentiment against overcapitalization has existed for many years. Corporation managers have heard these outcries so often, that they had ceased to heed them. Of late, however, the clamor has deepened into a snarl of menace. Laws have been passed with teeth in them. Public commissions have been clothed with great powers. Fares have been forced down by methods forcible and drastic.

The most authoritative information on the subject is contained in the Census Bulletin already referred to, and in the investigations made by traction experts, in connection with the Chicago and Cleveland franchise agitations. An analysis of the results of these sources of information shows that there is a wide variation in both the types and cost of construction due to the difference in the standards of tracks, cars and power house equipment in the various localities. The census inves-

tigation shows that for the average type of track and equipment in use, the cost of street railway construction per mile in the eight cities which exceeded 500,000 population was as follows:

Track paving and overhead construction	$33,650.00
Car equipment	19,375.00
Power house	5,242.00
Total	58,267.00

It is claimed that this estimate, approximating $60,000 per mile of track, is a fair minimum of the cost of street railway lines in the large cities. This calculation has been generally criticized by street railway men as being unfair to the companies because it does not cover a large number of expensive items such as car barns, car shops, etc., which it was impossible to include. They also make a strong point concerning the unfairness of regulating the value of street railway properties upon the cost of duplication. They point out that the street railway business has grown more rapidly than any industry in the country. That in many cases three types of cars and of power house equipment have been used in fifteen years. This rapid evolution has made obsolete the old types of equipment and roadbed long before they were worn out. They also contend for the protection of the money which was invested in the early periods when the prices of all materials was very much higher than would be charged for the same goods at the present time. It would seem, therefore, that fairness demands that the census figures should not be taken too literally but that a reasonable amount of elasticity should be given to them.

201. *Expert valuations in Chicago and Cleveland.*— The other source of authoritative information concerning the valuation of the tangible assets of the street

railway company is that furnished by the recent expert appraisements made in the controversies between the cities of Chicago and Cleveland and their respective street railways. These appraisements covered properties constructed according to the standards usually prevailing in large cities. They represent to a certain degree, a compromise between two factions, the city and the company, both of whose claims were no doubt extreme. One reason for caution in applying these conclusions too generally is that the roads were valued as property which had been used and hence subject to depreciation.

The data in the case of Cleveland is fortunately presented in detail enabling us to compare each item with the results secured by the Census Bureau. The census valuations, correspond very closely to that which was made by the expert engineers in determining the value of the property of the Cleveland Electric Railway Company. The expert engineers reported that the valuation of the 224½ miles of track was as follows:—

Description	Value	Per mile
Track	$ 3,800,000.00	$16,926.50
Pavement	1,721,000.00	7,665.92
Cars	2,634,536.23	11,735.25
Land	1,134,473.96	5,053.34
Buildings (except power and Battery bldgs.)	842,987.00	3,754.95
Overhead construction, including feed wire	1,007,957.55	4,489.79
Return circuits	95,409.02	424.99
Three power stations and buildings therefor	2,216,990.93	9,875.24
Storage batteries and bldgs. therefor	289,862.94	1,291.15
Shops, shop stores, and tools, rails, ties & track	427,074.37	1,902.33
Miscellaneous rolling stock and equipment	154,765.76	689.38
Overhead charges not included in any of above schedules	709,530.00	3,160.49
Total	$15,034,614.76	$66,969.33

The valuations in Chicago were unfortunately fixed at lump sums, not being itemized as were those of Cleveland. There were two companies at that time operating

all of the roads in the city. The Chicago City Railway Company with 242.5 miles of line was valued at $21,000,000 or at the rate of $86,598 per mile of track.[1] The Chicago Railway Company with 486 miles of track was valued at $29,000,000 or at the rate of $59,670 per mile of track.

The reasons for the wide difference between the valuations of the two companies per mile of track has never been fully explained. It is true that the Chicago City Railway Company property was in much better condition than that of the Chicago Railway Company. The valuations in both cases were compromises between the claims of the companies and the conclusions of the expert engineers.

For our purposes, however, these valuations and the census investigation establishes pretty conclusively the fact that the value of street railway properties in our large cities is somewhere between $60,000 and $89,000 per mile of track and that in most cases it will approximate the former rather than the latter figure.

202. *The wide difference between cost and capitalization.*—Now let us compare this estimated construction cost with the capitalization of the companies in our large cities. The mileage capitalization of the surface railways in these cities according to the census report was as follows:

	Population 1900	Net capital liabilities per mile of track
Baltimore	510,288	$182,009
Boston	927,994	97,353
Chicago	1,789,951	109,537
Jersey City	969,735	220,383
New York	3,551,107	259,542
Philadelphia	1,293,697	165,085
Pittsburg	640,380	185,170
St. Louis	614,328	198,647

[1] There were 14½ miles of track in the car barns and yards, and 188 miles of paving. Of the tracks in the streets, only 17 miles had less than 80 pound rails, and 178 miles were 90 pounds and upwards. The rails were taken at $38.80 per ton when new and the copper at 17 cts. per pound.

This comparison reveals a condition of over-capitalization for every city except perhaps Boston, even if we place the most liberal construction upon the cost of the properties. It is this great disparity between the capitalization of street railways and their actual cost which leads to the apparently never ceasing agitation against them.

203. *Companies with perpetual franchises.*—The results of overcapitalization can be divided into two classes upon the basis of the terms of the franchise of the companies. Let us first consider those corporations which are doing business under a perpetual franchise. In the volume on CORPORATION FINANCE you learned that by the decision of the United States Supreme Court in the case of Dartmouth College v. Woodward it was decided that both charters and franchise grants are contracts and that the Federal Constitution prohibits the passing of any legislation which may impair them. Many charters were granted to street railway companies in large cities without any restrictions or any reservation by which the legislature kept the right to subsequently regulate the corporation or its method of doing business. Most of the perpetual franchises are either entirely devoid of any reservation by the city of the right to regulate, or such provisions as were inserted are limited in extent and defective in form. It was believed for many years, therefore, that such corporations were beyond regulation by the states or the municipalities. They could charge such fares as they pleased within the limits named in their franchises, and could conduct their business in the manner which seemed most expedient, entirely free from municipal interference. The courts, however, have been gradually restricting the immunities of the companies and

correspondingly increasing the rights of the municipalities and the states over public service corporations. This is being done upon the legal theory that the street railways, electric light, gas companies and other corporations doing a similar business are in a class apart from the ordinary business organization, because they are performing a service of a public nature in which they have been given a monopoly by the state. The courts in all cases recognize the inviolability of actual investments and protect the company in its right to earn a fair return upon such securities as are supported by tangible property of an equal value. They recognize, however, that the cities in giving monopolies to the companies had a right to expect satisfactory service. They have taken cognizance of the fact that a large part of the capitalization has been created upon the basis of net earnings secured in part through insufficient facilities and the use of antiquated methods of operation.

204. *Tangible property and the value of the franchise.*—The courts have also forced a separation of the property of the company under two classifications: first, the tangible physical assets and second, the value of the franchises, or the capitalized earning power of the monopoly which the company enjoys. To the first, adequate protection is always given. In the case of the second it is by no means certain that the arm of the law will continue to protect and defend against municipal action.

205. *State regulation of street railways.*—The position of the street railways and the other public service corporations now corresponds very closely to that of the steam railroads. The Federal Government over twenty years ago created the Interstate Commerce Commission

for the purpose of supervising the railroads and regulating their charges, and a large number of our states have taken similar action. In many commonwealths, such as, for example, Wisconsin, Massachusetts and Texas, commissions have been created which are active in regulating railway facilities and charges. It is not strange therefore, that the experience and lesson furnished by the regulation of the steam railways by the state commissions should be taken advantage of, and copied, in the regulation of public service corporations.

Massachusetts was the first commonwealth to attempt the regulation of its street railways. The legislature, many years ago, passed an act conferring upon the Board of Railroad Commissioners the duty of exercising a general supervision over street railways, imposing upon it the duty of examining them "for the purpose of obtaining information as to their condition and the manner in which they are operated with reference to the security and accommodation of the public, and as to the compliance of the several corporations with their charters and the laws of the Commonwealth of Massachusetts."

The most important part of the law, however, was the provision which required every corporation which desired to place a new issue of securities, to submit the plan to the Board of Railroad Commissioners, and secure its approval before the issue could be legally made. The board was required, before deciding upon the application, to employ competent experts to investigate the character, cost and value of the assets of the company, and the cost of the improvements which were to be made with the proceeds of the new issue which it was proposed to create. If they found that the issue was excessive for the purposes enumerated, permission was

refused. The effect of this legislation upon the capitalization of the street railways is shown in the comparison given above of the capitalization of the companies in the various cities. The Boston street railways were capitalized at approximately one-half of those of Baltimore, Pittsburgh and St. Louis and for one-third of those in New York city.

206. *New York public service act.*—The most complete development of state regulation of street railways has taken place in New York. The legislature in June, 1907 created two public service commissions, one to have jurisdiction over "the first district" which comprises New York city and the other to control "the second district" including all the rest of the state. The powers of both of these commissions are identical. The act conferred upon the commissions jurisdiction over steam railroads, street railways and gas and electric corporations. The character of the powers which the commissions possess is shown by the following clauses of the act applying to street railways:

Whenever either commission shall be of the opinion, after a hearing, upon a complaint made as provided in this act, that the rates, fares or charges demanded, exacted, charged or collected by any common carrier, railroad corporation or street railroad corporation subject to its jurisdiction for the transportation of persons, freight or property within the state, or that the regulations or practices of such common carrier, railroad corporation or street railroad corporation affecting such rates are unjust, unreasonable, unjustly discriminatory or unduly preferential, or in anywise in violation of any provision of law, the commission shall determine the just and reasonable rates, fares and charges to be thereafter observed and in force as the maximum to be charged for the service to be performed, and shall fix the same by order to be served upon all common carriers, railroad corporations or street railroad corporations by

whom such rates, fares and charges are thereafter to be observed. And whenever the commission shall be of opinion, after a hearing, had upon its own motion or upon complaint, that the regulations, practices, equipment, appliances, or service of any such common carrier, railroad corporation or street railroad corporation in respect to transportation of persons, freight or property within the state are unjust, unreasonable, unsafe, improper or inadequate, the commission shall determine the just, reasonable, safe, adequate and proper regulations, practices, equipment, appliances and service thereafter to be in force, to be observed and to be used in such transportation of persons, freight and property and so fix and prescribe the same by order to be served upon every common carrier, railroad corporation and street railroad corporation to be bound thereby; and thereafter it shall be the duty of every common carrier, railroad corporation and street railroad corporation to observe and obey each and every requirement of every such order so served upon it, and to do everything necessary or proper in order to secure absolute compliance with and observance of every such order by all its officers, agents and employés. The commission shall have power by order to require any two or more common carriers or railroad corporations whose lines, owned, operated, controlled or leased, form a continuous line of transportation or could be made to do so by the construction and maintenance of switch connections, to establish through routes and joint rates, fares and charges for the transportation of passengers, freight and property within the state as the commission may, by its order, designate; and in case such through routes and joint rates be not established by the common carriers or railroad corporations named in any such order within the time therein specified, the commission shall establish just and reasonable rates, fares and charges to be charged for such through transportation, and declare the portion thereof to which each common carrier or railroad corporation affected thereby shall be entitled and the manner in which the same shall be paid and secured.

If, in the judgment of the commission having jurisdiction,

repairs or improvements to or changes in any tracks, switches, terminals or terminal facilities, motive power, or any other property or device used by any common carrier, railroad corporation or street railroad corporation in, or in connection with, the transportation of passengers, freight or property ought reasonably to be made, or that any additions should reasonably be made thereto, in order to promote the security or convenience of the public or employés, or in order to secure adequate service or facilities for the transportation of passengers, freight or property, the commission shall, after a hearing either on its own motion or after complaint, make and serve an order directing such repairs, improvements, changes or additions to be made within a reasonable time and in a manner to be specified therein, and every common carrier, railroad corporation and street railroad corporation is hereby required and directed to make all repairs, improvements, changes and additions required of it by any order of the commission served upon it.

207. *Power over other public service corporations.*—The power over electric and gas corporations is equally extensive. The act defines the jurisdiction of the commission over these corporations in part as follows:

Upon the complaint in writing of the mayor of a city, the trustees of a village, or the town board of a town in which a person or corporation is authorized to manufacture, sell or supply gas or electricity for heat, light or power, or upon the complaint in writing of not less than one hundred customers or purchasers of such gas or electricity in cities of the first or second class, or of not less than fifty in cities of the third class, or not less than twenty-five elsewhere, either as to the illuminating power, purity, pressure or price of gas or the initial efficiency of the electric incandescent lamp supply, or the regulation of the voltage of the supply system used for incandescent lighting, or the price of electricity sold and delivered in such municipality, the proper commission shall investigate as to the cause for such complaint. When such complaint is made, the commission may,

by its agents, examiners and inspectors, inspect the works, system, plant and methods used by such person or corporation in manufacturing, transmitting and supplying such gas or electricity, and may examine or cause to be examined the books and papers of such person or corporation pertaining to the manufacture, sale, transmitting and supplying of such gas or electricity. The form and contents of complaints made as provided in this section shall be prescribed by the commission. Such complaints shall be signed by the officers, or by the customers, purchasers or subscribers making them, who must add to their signatures their places of residence, by street and number, if any.

After a hearing and after such investigation as may have been made by the commission or its officers, agents, examiners or inspectors, the commission within lawful limits may, by order, fix the maximum price of gas or electricity to be charged by such corporation or person, or may order such improvement in the manufacture or supply of such gas, in the manufacture, transmission or supply of such electricity, or in the methods employed by such person or corporation, as will in its judgment improve the service. The price so fixed by the commission shall be the maximum price to be charged by such person or corporation for gas or electricity in such municipality until the commission shall upon complaint as provided in this section or upon an investigation conducted by it on its own motion, again fix the maximum price of such gas or electricity. In determining the price to be charged for gas or electricity the commission may consider all facts which in its judgment have any bearing upon a proper determination of the question although not set forth in the complaint and not within the allegations contained therein.

208. *Forfeiture for non-compliance with order.*— Every gas corporation and electrical corporation, and the officers, agents or employés thereof, shall obey, observe and comply with every order made by the commission under authority of this act, so long as the same

shall be and remain in force. Any such corporation, or any officer, agent or employé thereof, who knowingly fails or neglects to obey or comply with such order, or any provision of this act, shall forfeit to the State of New York not to exceed the sum of one thousand dollars for each offense. Every distinct violation of any such order or of this act, shall be a separate offense, and in case of a continuing violation each day shall be deemed a separate offense.

The act is well worth studying in full by any one interested in the investment postion of the securities of the companies located within the State of New York. It will be found in chapter 429 of the laws of the State of New York.

209. *Other important powers of commission.*—Many other important powers have been conferred upon the commissions other than those enumerated. All tariff schedules and changes must, for example, be filed with the commission thirty days before they become effective. The commission is given jurisdiction over the distribution of cars. It must approve all franchise grants before the corporation can take possession of the privileges which have been conferred upon them. It possesses the right to regulate the transfer of stock and its approval must be secured for all new issues of stocks and bonds before they become legal.

The effects of the activities of the commission under this law are known to every one who reads the newspapers. The street railways in New York city have been forced to make large expenditures for the betterment of their service and to provide the facilities needed to handle the traffic. Methods of operation, whose only recommendation was the small cost which they involved, have been prohibited and have been superseded by plans

which had for their aim the accommodation of the travelling public. The activities of the commission in behalf of the public was one of the most important factors in bringing down the top heavy financial structure saddled upon the street railways of New York city.

210. *Companies with limited term franchises.*—The popular attempt to regulate public service corporations falls, however, with the greatest severity upon those companies which operate under limited term franchises and the corporation whose franchise has a life of twenty or thirty years finds itself almost completely at the mercy of the city when the time for its renewal is at hand. The company must go to the city as a supplicant asking for a privilege and must take the best terms that it can get. The courts will protect it, in most cases, against confiscation of its real tangible property. That is to say, it will force the city to recognize the value of the tangible assets of the company in any scheme of readjustment. Beyond this, however, the law offers no protection to the company in its negotiations with the city. The consequences of this situation to the investor are clear. His investment is protected so long as the physical value of the company's property equals the amount of its obligations. When, however, the roads are overcapitalized, all of those securities whose lien is inferior to the issues equaling in amount the value of the physical assets of the company, are in a most precarious position. Let us take for illustration a company which we will say is capitalized for $100,000,000. It has outstanding bonds to the value of $25,000,000; stock of underlying companies to the value of $25,000,000, while the parent corporation has outstanding $50,000,000 of stock. If the expert valuation of the company's property shows that the tangible assets are

worth $60,000,000 it is plainly seen that while the bonds and the stock of the underlying companies are protected, yet four-fifths of the capitalization of the parent corporation has no legal protection in dealing with the city for the readjustment of its franchise.

211. *Lessons of the Chicago controversy.*—The experience of the Chicago Street Railways in the recent adjustment with the city is a most admirable illustration of the situation which arises when the renewal of franchises become necessary. There were, at the time when the contest became acute, two companies operating all of the lines within the city, the Chicago City Railway and the Chicago Railways Company. The franchise of the various underlying roads comprising these corporations began to expire in 1904, 1905 and 1906. The city refused to grant franchises upon any terms which would enable the company to earn more than a fair return upon the physical value of its property. A long and bitter war ensued involving endless litigation which finally reached the United States Supreme Court. The company was eventually forced to compromise with the city, which was done upon a basis generally regarded as very fair to both parties. In this compromise the city recognized, with the company's consent, that the value of the tangible and intangible property of the Chicago City Railway Company was $21,000,000. At that time this corporation had outstanding $20,000,000 of first mortgage bonds and $18,000,000 of stock. Upon this valuation it will be seen, therefore, that after the bonded debt was provided for there was $1,000,000 of recognized value as against $18,000,000 of outstanding stock. The Chicago Railways Company was valued by the Board of Expert Engineers at $30,779,875. This corporation had outstanding at that time $31,104,-

175 of funded debt, $1,768,366 of unfunded debt; $308,633 of guaranteed liabilities, $467,111 reserved for damages, making total liabilities of $33,748,286. The company had outstanding also $100,000 of capital stock. In other words the creditors of this company were forced to provide for shrinkage of almost 10 per cent in their claims, while the stockholders were entirely wiped out upon the basis of the physical valuation of the tangible and intangible property.

212. *The advantages of the Chicago plan.*—The plan adopted by Chicago in dealing with its street railways is so eminently fair that its bids likely to be copied in every city where this question may arise. Under the arrangement the capitalization of the company, after having been fixed by the Board of Engineers is carefully regulated and controlled in order to prevent future errors in management. Every new issue of securities must be approved by the City Comptroller, on behalf of the municipality, and by a board of disinterested supervising engineers to ascertain the correspondence of the issue to the cost of the proposed construction work, and for the purpose of seeing that the proceeds from the sale of the securities are properly spent. These officials, by giving their consent, bind the municipality to recognize, in all future negotiations, the validity of the securities and their right to a fair return. Once the painful process of readjustment has been finished, as is now happily the case in Chicago, there is no necessity for any future uneasiness concerning the possibility of over-capitalization. No matter what happens to the company when its franchise again expires at the end of twenty years the city is bound to recognize and provide for the holders of the securities of the expiring company.

213. *General importance of franchise question.*—It is not sufficient therefore, for the investor to be content with an analysis of the income account of the street railways. Large surplus earnings and attractive dividends may be the snare to entice him into an unfortunate position. The Chicago City Railway, for example, paid twelve per cent dividends until 1893; twenty-four per cent that year and twelve per cent from 1894 to 1900. From this date the dividends gradually fell off until they reached six and three-fourths per cent in 1907. The investor must study the franchise position of his company. He must ascertain the vulnerable spots in its legal position, he must acquaint himself with the possibilities of future trouble through unfriendly action, and he must endeavor to ascertain, with an unbiased mind, the basis, if any, for the popular agitation which may exist.

CHAPTER XXIII

SECURITIES OF INDUSTRIAL CORPORATIONS

214. *What is meant by the industrials.*—One of the largest classes of securities offered to the investor is the group known as "industrials." This group includes the stocks and bonds of manufacturing, mining and trading companies as distinguished from public securities, that is, from government, state and municipal bonds; the securites of public service corporations, such as street railways; and those of the transportation companies, of which the most important example is the railroads. The considerations which influence the value of industrial securities differ radically from those affecting any of the other classes of securities which we have studied.

Industrial securities are usually classified in the minds of the investors according to the industries which they represent. One group consists of corporations engaged in mining. Under this heading would fall coal, copper, iron, gold, silver and lead mining enterprises. The second class includes the industrials directly or indirectly connected with the manufacture of iron and steel. This group is by far the most important in the field, including not only the corporations directly engaged in turning out these products, but the many companies which manufacture these metals into their final finished form, such as the railway equipment, electrical equipment and special machinery manufacturers. The final group includes those corporations which are engaged in miscellaneous industrial activities. The most

important of these are the companies manufacturing sugar and its allied products, tobacco, paper, leather, rubber, beer and whiskey, miscellaneous food products, and, finally, the trading or merchandise corporations.

We see, therefore, that the field covered by these securities is very extensive, including some of the most important branches of American industry. The only way in which their value can be understood is to study each class by itself. Before beginning this detailed study, however, let us restate the basic conditions of every form of security entitled to rank as an investment. These are, first, security for the principal sum represented by the investment, insuring its return to the investor at any time he may desire through the sale of his security or upon the maturity of the obligation, and, secondly, the absolute assurance of the continuance of a fair return upon the money invested throughout the entire period of its employment.

The degree to which each class of industrial can satisfy these requirements determines its position in the investment field.

215. *Securities of manufacturing companies.*—We turn now to the class of industrial securities which represent ownership in manufacturing or trading companies. A large amount of the uncertainty which is connected with mining enterprises does not have to be contended with in this field. The supply of raw materials, when owned by the company, is usually of such a character as to be accurately and readily ascertained. The plants are something which are capable of reasonably accurate valuation. The business is of a character which can be understood by the ordinary man. Most of the elements necessary to an intelligent judgment are here in evidence. It is an interesting

fact that the industrial securities are largely confined to the few businesses in which monopoly has played an important part. In fact a great many people would define the industrials as the trusts.

216. *Few issue bonds.*—The industrials differ from the classes of corporations which we have previously discussed in that a relatively small amount of their capitalization is represented by bonds. Industrial corporations have largely confined their issues of securities to stocks, not because of any conservatism on their own part, but because their business is of such a character as to make bond issues unattractive to investors.

The record of earnings of these properties is usually very irregular. The public corporations, such as the governments of our nation, states and cities, arbitrarily fix their income to meet their needs. With them, therefore, the question of earnings is a matter concerning which the investor does not have to worry. The public service corporations base the value of their securities upon their earning power. This, however, is stable and does not vary to any great extent in good years or bad years. People have to ride on trolly cars whether times are good or bad. They use telephones no matter what may be the condition of business; they must burn electricity and gas and they must use water. As a consequence, the income of public service corporations is constant so that a very narrow margin of earnings above fixed charges is sufficient to satisify the ordinary investor.

The position of railroads is only a trifle less secure. The larger part of the income of our railroads is derived from freight traffic. This expands in boom times and contracts during periods of industrial depression. However, the railroad, to a considerable extent, is able

to offset these variations in income by economies in operation. We have seen that it is necessary for this class of corporations to maintain a reasonable surplus of earnings over and above fixed charges. If this surplus is reasonably large the investor in railroad bonds has little to fear.

Industrial corporations are, however, radically different in position. Modern industry is specialized. Every important line is subdivided again and again so that at the present time there are large concerns making some single article which is really nothing but a specialty. There is hardly an industrial corporation of which this is not true. The United States Steel Corporation manufactures a very large number of things. Most of these are in turn taken by another set of corporations and made over into more highly specialized forms.

A corporation of this class is either in a period of feverish overstrained activity or one of intense depression, amounting almost to complete idleness. With them it is either a feast or a famine. Their earnings jump from one extreme to the other as the industrial condition of the country changes. In the volume on Corporation Finance the relation which fixed charges can safely bear to net earnings was gone into in detail. You will recollect that the rule is that fixed charges must always be kept below the low water mark of net earnings or that in other words, they must never exceed the minimum amount which the company can earn in the worst year. It is easy, therefore, to understand why the bonds of corporations whose earnings fluctuate widely, are regarded with disfavor. The investor shuns them because he realizes that he is buying a chance. The bondholder is not expecting to buy

a chance for he regards himself as a creditor and not as a partner. In a new venture the stockholder may look for large and dazzling returns but the bondholder can never hope for more than a certain fixed rate of interest on his money no matter what success the company may win. This is the reason which makes it difficult to float bonds upon most industrial enterprises. The corporation also finds it disadvantageous to put out bond issues because of the distrust which it creates in the mind of the stockholder who does not like the load of fixed charges piled up ahead of him, particularly when he realizes that these may be a positive menace to the safety of his investment. In the last few years, however, a number of the larger and stronger manufacturing companies have been able to float bond issues, but, as a general proposition, it is still difficult and inadvisable for the bulk of manufacturing companies to do much financing in this manner.

217. *Importance of the character of the business.*— The economists divide the various articles which are produced into two classes: The first they can call capital or production goods, while they designate the second class as consumption goods. This division is of importance in the study of industrial securities. We have seen that the demand for various classes of goods differs considerably, especially in periods of depression. Thus, for example, the goods which are really necessities of life are bought in about the same quantities in bad years as in good years. The goods which must be classed as luxuries, have a large demand in prosperous years but their market almost disappears when adversity overtakes the country.

Now it is obvious that the investor in an industrial proposition is much more secure if he puts his money

into a company producing the necessities of life than into a corporation manufacturing luxuries. The former's earnings will be reasonably well sustained while the latter's will almost entirely disappear during bad years.

In the field of production of goods the same distinction must be made. There are generally two classes of producers in this field. First, those which turn out crude forms, and second, those which take the products of the first and manufacture them into those final forms in which they are sold to the consumer. We can take the United States Steel Corporation and the Westinghouse Companies as examples of the two classes. The first takes the raw materials out of the ground, assembles them, converts them into pig iron and turns the pig iron into steel. The steel ingots are then sold to the Westinghouse Companies which put them through many operations and finally turn them over to the consumer in the form of a dynamo or a turbine engine. Now as a general proposition the further you get toward the final stage in the production of the finished goods the less desirable the particular business becomes as an investment. The producer of half finished materials has a large class of buyers upon which he can rely. He may be supplying steel to thirty separate and distinct industries each of which has little connection with the other. The manufacturer, however, of dynamos or locomotives is in an exceedingly narrow and specialized field. He is subject to peculiar setbacks which may affect his own particular industry, while not affecting the trade of the country at large. He, therefore, has to watch not only the general industrial depressions which affect every business but the special and peculiar changes in

trade conditions which would seriously impair the demand for his product.

Many producers of specialized goods, however, turn out a large variety of articles. The Westinghouse Companies, for example, manufacture air brakes, draft gears, electric machinery, gas and steam engines, patented arc lights and a large number of other articles of the same general nature. They are in a much safer position, producing a large variety of products under one management, than they would be if they confined their activities to one single line, because the falling off of the demand for one line only partially affects their earnings. In fact the loss may be more than offset by the increasing demand for something else which they may turn out.

218. *Importance of controlling a large supply of raw materials.*—The second consideration which affects the desirability of the securities of manufacturing companies for investment concerns the control which the company exercises over its raw material. Some authorities have gone so far as to say that no industrial is really a first class investment unless is has some natural monopoly through the control of raw material. There is great force in the argument which supports this contention. Most manufacturing monopolies are either based upon the control of raw material or upon the strength of valuable patents which make their products superior to that of other competitors. One of the strongest factors in the strength of the United States Steel Corporation is its control over the raw material supply. There is only a certain amount of good iron ore in the country. The Steel Corporation bought out practically every plant which controlled any considerable supply of ore or coke land when it was organized, and

since that time has greatly strengthened its position by numerous purchases and leases. As a consequence it would be almost impossible at the present time for any group of capitalists, no matter how strong, to build up a system of plants which could offer serious competition to the steel corporation. They could not secure the supply of raw materials which is the first essential in offering dangerous competition.

219. *Effect of strong rivals.*—It is not only important for the investor to ascertain the amount of raw material which his company controls but it is necessary for him to find out how many strong rivals the company may have which are equally well entrenched in this respect. Competition between two or three strong rivals is much more dangerous than between one large company and thirty or forty small ones.

In considering the supply of raw materials it is also important to ascertain the suitability of the location of the raw materials in reference to the plants. There are frequently deposits of raw material which are very rich but which have little value because they are so remotely located. The transportation charges incurred in getting them to the plant are prohibitive.

220. *Monopoly of patents.*—The investor should avoid a business which is charging prices considerably above the cost at which the goods can be produced, relying upon a monopoly based upon patents. High prices and large profits always attract competitors. It is usually foolish for the investor to believe that there are not as good men in the employ of others as there are upon his company's rolls. No one can tell when some one of these outsiders may develop patents which are far superior to those upon which the monopoly has been based. A good patent is always subject to in-

fringements and a strong company with good financial backing and the aid of bright patent lawyers can usually succeed in securing most of the advantages of other people's patents by clever modifications designed to evade the provisions of the law.

221. *Personal equation.*—The third consideration concerns the importance which the personal ability of one or more of the managers bears upon the success of the company. The small company usually is open to the objection that its success depends upon the work of a few pushing, enterprising men who have built it up, and who must be depended upon to carry it along. The larger the corporation becomes the less it is open to this objection. The United States Steel Corporation, for example, is so enormous that no one man is indispensable to the business. Any one might die or resign and there would probably be a half dozen other men, almost equally able, who could be placed in the position. The uncertainty of human life enters very little into the calculations of the probable future of most large enterprises.

222. *The financial policy of the company.*—The fourth question concerns the financial policy pursued by the company. We have already seen that an industrial corporation should be conservatively capitalized or that, at any rate, its capitalization should be made up of a very small portion of bonds. A very generally accepted rule holds that no industrial corporation should issue an amount of bonds exceeding one-half the cost of its property and that in all cases these bonds should be protected by sinking funds which will retire them as the property depreciates in value. The vicissitudes of business are such that the investor should always keep in mind the position he would be in were

the company to become insolvent. Every one knows that a manufacturing property has little value except as a going proposition. If dismantled the machinery is worth little above the price of scrap iron. The buildings usually have been constructed to suit the particular needs of the industry and are unsuited for any other purpose. Such specialized property therefore is not likely to secure large bond issues.

If cumulative preferred stock has been issued by the industrial, the investor usually insists that the amount outstanding shall not exceed the difference between the bonded debt, if there is any, and the actual cost of the plant. That is to say, the total of the bonded debt and the preferred stock issue should not exceed the cost of the plant. Where this rule has been followed, and the company has a satisfactory record of earnings for a period of at least ten years its preferred stock can be usually sold at prices approximately investment levels. It is bought by the class of people who are not satisfied with the modest yield of first class bonds and who are ready to take some slight risk in exchange for a larger annual return.

The common stock of the large industrials is often worthless from an investment standpoint. It is usually nothing more than the capitalization of anticipated earnings There is no assurance that these will ever be realized.

223. *Importance of ample working capital.*—A very large number of the industrials get into trouble because of mistakes in providing for working capital. This should be provided out of the earnings and not borrowed from the banks. An industrial corporation whose bank loans exceed its bills receivable is on the verge of bankruptcy. Conservatively managed cor-

porations usually keep their loans well below this mark. In determining whether a corporation has sufficient working capital, investors should compare its amount with the gross sales of the company during the preceding year and over a period of years. The Census of 1900 gives the following table which shows the percentage of working capital which the investor should expect for the leading manufacturing industries:

	Percentage of working capital to total	Gross business per dollar of working capital
Food products	46%	$5.22
Textiles	54%	2.24
Iron and steel	50%	2.33
Lumber	45%	2.40
Leather	75%	2.35
Paper and printing	40%	2.70
Liquors	41%	1.96
Chemicals	51%	2.17
Clay and glass	37%	2.28
Metals	53%	3.52
Tobacco	76%	3.02
Vehicles	53%	2.42

These figures may be accepted as giving a fair idea of the standards which should be applied. We see that there is no general rule because the conditions are to a large extent peculiar to each industry.

The last point in reference to the financial management of the company concerns the necessity of seeing that adequate depreciation is provided for. The ordinary manufacturer is careful to set aside each year a sufficient sum to enable him to replace machinery and tools when worn out and thus to keep his plant up to a high state of efficiency. Strange to say the ordinary industrial does not carry any depreciation account. There is no valid reason why it should not be done, for the character of its business is exactly the same as that conducted by the smaller companies. Unless an industrial, however, sets aside in some form, 10 per cent of its book valuation each year to cover depreciation,

it is likely that the investor will one day suddenly come to realize that he is the owner of an antiquated, broken down plant. Most of the large industrial corporations really provide for depreciation in an indirect way. They carry each year a large sum to surplus account. This money is really invested in the up-keep of the property. When you see, therefore, in the newspapers that a certain industrial corporation is exceedingly prosperous and conservatively capitalized because it has an immense surplus of several millions of dollars, which has been piled up out of earnings, you must remember that this is largely fictitious as the surplus merely represents the grand total of the amount spent on renewals and betterments since the company has been incorporated. It is only that portion of the surplus which exists in cash or quick assets that can really be relied upon to carry a company through financial crises.

224. *Industrials and the tariff.*—Those industries which are mainly or wholly dependent upon the tariff for the maintenance of profits and the continuance of their prosperity are not good subjects for investment. No one has any assurance that the present sentiment concerning the desirability of a protective tariff will continue indefinitely. Since the investor should deal in certainties and not in probabilities, he, if wise, avoids those industries where this question plays an important part.

225. *The legal position of the industrials.*—One of the most vital questions concerned with the value of industrial securities is the legal position of these companies. The United States Government, and almost every state in the union, have passed statutes intended to forbid the consolidation of competing plants or the creation of agreements in restraint of trade. Every

large industrial combination is violating the spirit of these laws, if not indeed their letter. During the Roosevelt administration a large number of prosecutions were brought against combinations for alleged violation of these laws. Some of these suits have been successful. At the present time the American Tobacco Company is making an appeal from a decision of a United States court decreeing its dissolution on the ground that it is violating the anti-trust law. The Standard Oil Company is fighting to prevent being placed in the same position. The legal uncertainty which surrounds industrials is far greater than the average layman appreciates. In fact there is really no one who can tell exactly what combinations are legal and what are forbidden. Until the courts, therefore, give clear definition of what is permissible no one can tell which of the great industrials are really within the the meaning of the law.

CHAPTER XXIV

MINING STOCKS

226. *How mining stocks rank as investments.*—Mark Twain has said that a mine is a hole in the ground owned by a liar, and there is no doubt that in no other class of securities does the element of fraud and misrepresentation enter so largely. For this reason many authorities hold that mining stocks can never be considered as investments. One prominent engineer has said that only rich capitalists and practical mining men should ever purchase mining stocks. It is a fact, however, that many New England investors have placed all their resources in copper stocks and in many instances have fared well. Thirty Michigan copper mines have paid out more than $164,000,000 in dividends to 32,000 stockholders. If proper precautions are observed and the investor familiarizes himself with the peculiar conditions of the mining business, mining stocks may be purchased with a fair degree of safety and to yield a high return. Far greater care and caution, however, are required than in the case of railroad and certain other classes of securities and from that point of view it is possible to assert that mining stocks are not, strictly speaking, investment securities.

The annual mineral production of the United States in 1909 amounted to about $2,000,000,000. With such a vast amount of wealth coming from the earth each year it is but reasonable to suppose that good securities can be purchased which are based upon this industry.

There is always a demand for minerals at some price and if a mine really contains ore and the management can get it out at a reasonable cost, the business must necessarily be a profitable one. Of course it must be remembered that stocks in many of the best mines are never offered to the public but are privately owned. Pig iron, whose production is valued each year at more than half a billion dollars, is nearly all owned by the iron and steel manufacturing companies and therefor is not to be considered in this chapter, as it comes under the purview of industrial securities. Coal forms a large item in our mineral wealth and the securities of coal mining companies will be considered in the next section.

227. *Coal mining securities.*—The largest proportion of the capitalization of mining companies in the United States is probably represented by the coal companies. These are the corporations which mine, and sometimes sell, the various classes of coal. While the total capitalization of these companies is enormous, yet the amount available to the ordinary investor is insignificant. The organization of the coal mining business is peculiar. Anthracite coal is, to a large extent, mined by a few corporations which are controlled by stock ownership by the railroads whose traffic consists chiefly of anthracite coal.

Under the decision of the Supreme Court of the United States concerning the interpretation of the so-called "commodity clause" of the Interstate Commerce Act this arrangement was declared to be perfectly legal. It follows, therefore, that the stockholders of the hard coal railroads are indirectly the owners of the companies engaged in mining anthracite coal. In the bituminous field the same situation exists in a different form. Formerly there was a large number of bituminous coal

operators, some of them individuals and others corporations. This condition, however, has been radically changed in the last decade. Large combinations have been formed taking over the smaller properties, so that at the present time, about twenty companies control the major portion of this business. The securities of these companies are not generally owned by the railroads. They are, however, held by a few strong interests, making the companies close corporations. As a consequence the ordinary investor finds a very small supply of high grade coal stocks offered to him.

Some of the bituminous coal companies have offered to investors bonds representing first liens upon their property. These bonds are secured by mortgages on the coal lands and the collieries located thereon. They are really bonds secured by real estate mortgages upon mineral deposits. An interesting feature concerning these bonds is the sinking fund provisions, providing for their retirement with the exhaustion of the coal supply. The security for the bond is, of course, constantly diminishing as the coal is mined. As a consequence the bondholder demands protection which is given to him usually in the form of a fixed sum, as, for example, five cents per ton mined, which must be applied to the extinguishment of the bonded debt.

In order to find a market for these bonds, it is necessary for the coal companies to make engineering investigations to ascertain the exact amount of coal covered by the mortgage. No wise person would buy a bond secured by a mortgage on ground supposed though not known to contain coal. He knows, of course, that at certain points over this immense tract of several thousand acres, coal is being dug, but he has no assurance that these are not isolated spots and that

the major portion of the tract is not absolutely barren of coal deposits. He must be sure there is sufficient coal underlying the ground to secure amply the sum which he is lending to the corporation. In order to give him this assurance the coal companies have borings made at regular intervals over the entire property. They can thus ascertain the thickness of the coal vein and its relative depth below the ground. From this data engineers can roughly estimate the amount of coal which should underlie the tract. The coal companies are practically the only mining corporations which issue bonds to any extent.

228. *Copper, gold and silver stocks.*—Although, strictly speaking, stocks of coal and iron mining companies are mining securities, one does not usually think of them when using that term. By mining stocks we commonly mean those of copper, gold, silver and lead companies. In a general way the same considerations apply to all of these.

The mining business is one in which the small producer has but very little opportunity of success. Every technical improvement increases the outlay required for the construction of a modern plant. Where $50,000 used to be sufficient, five times that sum is now required, with the result that it is only the companies with financial strength which can build properly equipped plants. In order to warrant such a large investment it is necessary that the corporation shall own a large amount of ore land, insuring a sufficient supply to keep the plant busy for many years.

The great difficulty concerning copper mining, as with most other ventures of this kind, is the liability to sudden disaster through the exhaustion of the deposit. The company may have a large mine which has

been worked for a number of years with great profitableness and suddenly the ore runs out or the vein decreases in value so that further profitable operation is out of the question. If this happens, the investment in the expensive plant is practically lost, for the machinery is worth little above the price of scrap iron. To avoid this disaster the more conservative companies develop their workings in advance of their immediate necessities. That is to say, they run tunnels and leads into the veins to ascertain how much ore is in sight. This blocking out process enables them to assure their stockholders that there is at least a certain amount of raw material in prospect. It is obvious that if this process is carried far enough the company should be able to assure its owners positively that there is enough ore in sight to warrant its successful operation for a long period of time. This scheme of blocking out is followed most extensively by the gold mining companies.

The transvaal companies in South Africa have, in many cases blocked out sufficient ore to insure the repayment of the original investment many times over. Where this has been done, and the investor, therefore, has positive assurance that there is a large amount of ore actually in the possession of his company, mining stock may become almost as safe as any other form of investment.

229. *Importance of a sinking fund.*—It is important to remember in connection with mining investments that unless some provision is made for the perpetuation of the assets of the company, the stockholder of a mining company should expect dividends much above the average, for he is not only receiving in reality a return upon his investment but is getting his original

principal back in the form of annual installments. Thus if 6 per cent is a fair rate of return, the investor should get at least 10 or 12 per cent upon his money, for it is likely that in fifteen or twenty years his mine will have become exhausted. If he has not, therefore, laid by at least one-half of his annual dividend checks, he finds that he has in reality spent his principal as well as his interest. Some corporations, especially in Europe, guard against this contingency by setting aside a depreciation fund, intended to offset the loss in value of their property through its operation. This depreciation fund can either be allowed to accumulate until the termination of the company's business and then returned to the stockholder, or a distribution can be made in the shape of extra dividends, from time to time. Some of the large coal companies adopt the policy of using their depreciation fund to purchase new deposits. If this plan is properly carried out it will mean that such corporations will have a stock of unmined coal always equal to the amount which they owned at the time of beginning business. Such provisions for the preservation of the coal or ore supply by new purchases is the exception rather than the rule. It is also true that most companies neglect to block out their ore deposits and drive ahead, heedless of the future, and with no assurance that at any time their business may not be suddenly snuffed out. The man who places his money in the securities of such companies is really buying a lottery ticket for he is gambling upon the unknown. It is unfortunately true that the American people—in fact the people of almost every nation—seem to find a peculiar fascination in mining stocks. In boom times many millions of dollars are annually fooled away in the purchase of worthless securities of this

class. As a general proposition it may be said that with the exception of companies which follow the conservative methods already described or those somewhat similar, the ordinary man should strictly avoid all mining securities.

230. *Hoover's tables.*—Practical mining men in this country object to the idea that the company should maintain its own sinking fund. Not only is it difficult to decide just how much should be set aside but it is maintained that stockholders of the mining type prefer to do their own reinvestment. Unfortunately many purchasers of mining stock do not realize the necessity of laying aside a certain amount of each year's dividend for sinking fund purposes. The main point is that stockholders should realize that the mining business is in a constant state of liquidation, that a portion of the income is a return of the capital itself. If this fact is appreciated it makes little difference whether the company or the investor maintains the sinking fund.

If you know the dividend rate on a mining stock and desire to find how many years the mine must produce at its present rate to return to you the capital invested and a fixed rate of interest on this capital, the number of years can be ascertained from such tables as are printed, for example, in Mr. Herbert C. Hoover's work on "The Principles of Mining." In other words, for instance, take a stock which is quoted as selling at $9 and is paying $2 in dividends, that is 22 per cent. By calculation you will find that to return you your capital and 6 per cent yearly on the investment, the mine should be capable of keeping up this rate of production for 5.7 years and if, for example, the engineers' reports show that there are four years' or even three years' ore in sight, sufficient to produce this divi-

dend, and that there are prospects for ore in other directions, either downward or laterally, then you could afford to take the risk.

231. *Prospects and developed mines.*—Mining business from an investment view is of two sorts, prospecting ventures and developed mines; that is, mines where little or no ore is exposed and mines where a definite quantity of ore is known to exist. All mines must pass through the prospecting stage and the Aladdin profits of mining come to those who buy a successful prospect. But the actual industry of metal production is based on developed mines and it is these alone which the non-professional investor should buy into. In fact the non-professional investor who buys a prospect is no less than an ass and the reasons therefor can be gathered from the following statement made by Daniel Guggenheim, President of the American Smelting & Refining Co.:

> Even where there are undoubtedly surface indications of ore values, it should be borne in mind that 1 in 300 is a conservative estimate of the proportion of prospects that eventually fulfill their promise. The 299 failures are forgotten in the one success, and that one is made the bait with which the public is tempted to 300 more ventures.

232. *Ore in sight.*—Once the investor has learned to leave prospects to the rich capitalist or the reckless speculator, he must next turn his attention to the amount of ore actually in sight. It is the profit in sight which is the only real guarantee or root value of a mining investment. The future is always intangible. What value to assign to probable or possible ore admits of no certainty. Nevertheless few mines are priced at a sum so moderate as that represented by the profit from the ore in sight or blocked out. As a general rule, how-

ever, a mining proposition is regarded as good if 60 per cent of its selling price is represented by ore actually in sight.

233. *Mining risks.*—Investors should remember that all mines become completely exhausted at some point in depth. Not over 6 per cent of mines that have yielded profits ever made them from ore taken below 2,000 feet. The majority of dividend paying mines have died above 500 feet. If investment in mines be spread over ten or more different cases the risk of giving out at a short depth is of course lessened. Distribution is an excellent principle in mining, and indeed the average investor, who should never think of buying into a prospect directly, might do so indirectly with a fair degree of safety if he buys the stock of a large development company which owns a number of prospects as well as developed mines.

Unfortunately the value of mining stocks depends not only on the peculiar conditions incident to each mine but also on the fluctuations in the price of metals. This is not so true of gold mines but is an important factor to be reckoned with in the case of copper and silver properties. The difficulty, however, is not as great as it first appears. It is all a question of knowing whether a mine can make a profit at the minimum price for metals. Copper in recent years has sold all the way from 11 to 25 cents a pound. Many mines which cannot operate at a profit at 11 cents make fabulous profits at the higher prices, but are forced out of business when prices fall. The investor simply should not touch a mine which cannot profitably operate at close to the minimum figure. The average cost of producing copper is about 10 cents a pound, the lowest cost being 7½ and the highest 12½. The course of metal prices

can rarely be foretold, but the risk is simply a question of how conservative a figure is used in estimating prices. It can be eliminated altogether if a price low enough is taken.

Mining stocks enjoy certain advantages over many other classes of securities. Mines are not monopolies and are free from hindering legislation. The price of metals does not vary more than the prices of many manufactured products. Competition plays but little part and success does not depend especially upon the ability of the founder or manager. Finally, the speculative value of good will, which enters so largely into industrial stocks, is fully as great a risk as prospective value in mines.

234. *Mining reports.*—Except in a few rare cases mining companies do not supply sufficient information to their stockholders. But during the last few years great progress has been made in this direction and at the present time the average mining investor knows better than ever before what information to demand.

The Mining and Metallurgical Society of America has recently discussed the question of what information a mining company should give its stockholders each year, and it was finally decided that its annual report should embody the following things:

1. Details as to the capitalization of the company; the number and classes of shares outstanding at the date of the report; the respective rights of these shares; the number of shares remaining in the treasury; any options or contracts on such shares; any bonded indebtedness.

2. A brief review of the past history of the property, the work accomplished and the results obtained, with tabulated statement of expenditures and receipts from

the beginning, marketable products made each year, and the sums received from the sale of same, the annual net earnings and the disposition made of such earnings.

3. A similar review but in more detail, of the work of the year, with statements of the assets and liabilities, receipts and disbursements, cost sheet and other information as to work accomplished and results obtained.

4. A statement of ore reserves at the date of the report, compared with the reserve of the previous year, with an estimate by competent authority, of the probable life of the mine.

235. *John Hays Hammond's "Don'ts".*—The following rules are those of John Hays Hammond, one of the best known and most successful mining engineers in the world.

First.—Don't invest your money in a mining property simply because of the fact that a friend of yours (even if he a blood relation) became rich through a fortunate investment made in a mining stock.

Second.—Don't, on the other hand, be deterred from investing in a mining property because another less fortunate friend became bankrupt through some other mining investment.

Third.—Don't allow any insinuating, slick, dishonest, not to employ the short and uglier word, promoter, or so called stock broker, to overcome your natural modesty and convince you that, because you have been successful in your own line of business, you yourself are competent to determine the value of a mine. Many men of business ability in their own lines have made trips of self-deception to see for themselves that which existed only in their imaginations. "Shoemaker, stick to your last."

Fourth.—Don't be influenced in your desire to purchase mining stock by the rich specimens that the mines have produced, even though you yourself have seen such specimens in the mines. Specimen rock of this kind is no criterion of the average grade of the ore upon which the success of the mine depends. I re-

member the story of old John Cashweiler, a well-known mining capitalist of his day, when he was asked his opinion on the value of a property from which very rich specimens of ore were shown him. "You might as well show me the hair from the tail of a horse," said Cashweiler, "and then ask me how fast the horse can trot."

Fifth.—Do not buy stock in a mine because it has produced a profit of millions of dollars in the past, for the mine is obviously so much poorer for the millions already abstracted.

Sixth.—Do not buy stock in a mine solely because it is in a far-off country, even though distance lends enchantment to the view.

Seventh.—Don't buy stock in a mining company simply because of the fact that it adjoins another mine of great value. That may be interesting, but it is not conclusive as to the value of the mine in question.

Eighth.—Above all, don't buy shares in a mine unless you have the unqualifiedly favorable report made by a mining expert of known integrity, ability and experience, and one who has made a success in investment of money for his clients. An engineer may have the best obtainable technical training, supplemented by considerable practical experience, and yet lack the certain qualifications in his professional make-up that determine success or failure.

Ninth.—Don't buy stock in a mine unless you are sure that the board of directors are honest and competent, because good management is just as essential to success in mining as it is in other enterprises. In the early days of mining in the Transvaal, the ignorance of the boards of directors of mining companies was indeed lamentable, though sometimes comical. A well-authenticated story is told of a certain board of directors in London, to whom the manager had cabled, telling them of the necessity of having another mining shaft upon the property, as the old one was out of repair and dangerous. They cabled in return to the manager to endeavor to find a second-hand one.

Tenth.—In short, don't abandon all your good common sense just because the investment happens to be one in mining and not in some other class of industrial securities.

CHAPTER XXV

IRRIGATION BONDS

236. *Irrigation in the United States.*—Irrigation is not new; in fact, the principle of the reclamation of arid lands by the application, by artificial means, of water running to waste is about as old as civilization itself.

It was not until only a comparatively few years ago, however, that the particular feature of economic development involved in irrigation was brought to the immediate attention of the investor.

Anyone who has studied carefully the remarkable growth of the United States, noting each of the distinctive changes that took place as the population rapidly increased and the frontier was pushed farther and farther west, until it was obliterated completely, can scarcely have failed to be impressed with the changes in agricultural methods, accompanying the final settlement of the country's fertile lands—the slow, but none the less certain, transition from extensive to intensive farming. To one who had made these observations, it must have been obvious that, sooner or later, the farmer would turn to a study of the agricultural possibilities in the arid lands, which had hitherto been found unprofitable to improve and cultivate—to which, in fact, necessity had not, in the earlier days of the country's development, called attention.

In the realization of these possibilities, irrigation bonds, as the investor of to-day knows them, had their

origin. Within the last five years millions of dollars par value of this peculiar type of security have been distributed to the public through numerous special agencies, scattered from the Atlantic to the Pacific.

237. *Three classes of bonds.*—Irrigation bonds may, broadly speaking, be divided into three special classes, viz. (1) municipal district irrigation bonds; (2) corporation "Carey Act" bonds; and (3) private corporation bonds. It will be well to remember that neither of these three classes of bonds can be issued, except in conformity with the laws of the several states but such laws vary widely, imparting different degrees of security to the bonds issued under them.

238. *Municipal district irrigation bonds.*—Those which were among the first to find their way into the hands of the general investing public, were of the municipal district type. The method of issuing these may be described as follows: whenever the majority of the resident freeholders, owning lands in any district, desire to provide for the irrigation of these lands, they may propose the organization of an irrigation district, and must petition the board of county commissioners for permission so to organize, asking the commissioners to establish the boundaries of the proposed district. Upon formal organization, which must be ratified by a majority of all legal electors in the district, and upon the choice of the necessary directors, bonds may be voted and issued for the construction of the irrigation system, the laws of most states providing that bonds so issued and the interest thereon, shall be paid by revenue derived from annual assessment on the real property of the district.

239. *Carey Act bonds.*—In 1894, the national "Carey Act" was passed by Congress, in order to encourage

further the reclamation of arid lands by state or private enterprise. This law gave to each state the right to select one million acres of land within its borders and to control the irrigation and cultivation of such land. It was provided that the state should effect the sale of the lands to bona fide settlers in tracts not to exceed one hundred and sixty acres to any one person.

Following the passage of this act, the states quickly passed bills enabling them to take advantage of the Federal statute. Most of these bills authorized state officials to receive and pass upon requests of "any person, company of persons, association, or incorporated company" desiring to construct irrigation systems, provision being also made that the engineering plans should be passed upon by state agents, and that completed works should be subject to state inspection. Here, however, the state's responsibility in the premises should cease.

Bonds issued under the general provisions of this act are secured upon purchase money mortgages given by the settlers of the land, together with their water rights, and in addition to such security as there may be in the irrigation system itself.

240. *Private corporation bonds.*—Private corporation irrigation bonds are merely what the phrase, itself, implies. They are issued for the construction of irrigation systems on lands privately owned, and, as in the case of the "Carey Act" bonds, have for their security the mortgages given by settlers on purchased land, the appurtenant water rights, and the property of the corporation.

241. *Irrigation bonds as investments.*—With this general description of how the three classes of irrigation bonds are issued, we may proceed with an attempt to give these bonds their proper ranking among the al-

most innumerable types of investment securities. Possibly, some of the essential details, which govern the safety of principal and certainty of interest of irrigation bonds may have already suggested themselves to the reader. The most important of these are:

(1) Quantity of water available and the rights securing it.

(2) Character and fertility of the soil.

(3) Location and elevation of the land.

(4) Character of the crops.

(5) Transportation facilities and markets.

The prospective investor in irrigation securities should take all of these details under careful consideration, remembering, of course, the real essential, that the lands which are the direct security behind the bonds, are desert lands and remain so until the delivery of the water has been actually accomplished, and that even then the soil is not of value until it is under the control of the farmer.

To the writer, the statement just preceding seems to justify the classification of irrigation bonds in that general grade of obligations, based upon industrial enterprise, in which the element of risk is always one of the factors distinguishing such obligations from those properly to be considered outside the realm of speculative purchases; in other words, those primarily based upon original and tangible values.

242. *Their value at first potential.*—This is to suggest that irrigation bonds at the time of their issuance and sale, are, except in few instances, possessed of little more than potentialities. In this respect, they may be likened to the construction issues, made in the early days of railroad finance. A large percentage of these one-time construction bonds, as all investors know, "made good,"

acquiring constantly increasing value, as the properties on which they were based developed their traffic and established permanent earning capacity. There are still outstanding many of such bonds which, originally floated on a basis of 6 and 7 per cent, cannot now be had on a basis of better than 4 per cent. On the other hand, there were many failures, heavy losses following the exploitation of projects of doubtful character, which in reality had little more to commend themselves to the attention of investors than the reputation of contemporaneous projects of undoubted promise. Such has been the history of irrigation finance. There have been very good irrigation bonds, and there have been very bad ones.

243. *Presumption favors municipal district bonds.*— When it comes, however, to answering the question, in what one of the three classes of irrigation bonds, above described, the likely successes are to be found, the critic's task is a difficult one. Presumption is probably in favor of municipal district bonds, although the investor should not, by any means, accept, without qualification, the statement frequently made by those who have such bonds for sale, that they are surrounded by the same safeguards as municipal bonds, as they are ordinarily known. Sight should not be lost of the fact that, even in the case of municipal district projects, the lands, which in the last analysis constitute the security for the bonds, are partly, if not entirely, arid and unimproved; that, if the project fails, through any one of the possible contingencies, such as engineering difficulties, or failure of the farmers to get control of the soil, and the farmers are compelled to give up their lands by reason of failure to pay taxes, they in reality lose nothing of any particular value, upon which the

bondholders could realize the amount of their invested principal.

The higher grade municipal district bonds have been issued with due regard to the assessed valuation and tax-paying ability of the districts, but there are instances on record where little, if any, consideration seems to have been given to these essentials.

244. *"Carey Act" bonds not guaranteed by the government.*—A point to be emphasized regarding "Carey Act" bonds is that, contrary to the impression, which many investors appear to have gained, they do not in any sense bear the stamp of approval of the United States Government. It is true that certain State official responsibility attaches to issues made under the provisions of this law, but it is almost needless to say that in most cases of difficulty, bondholders would find themselves with little, if any, recourse to such officials.

245. *Importance of personal equation.*—As for private corporation bonds, their possibilities will almost always be governed entirely by the personal equation—the character of the men behind the enterprise, and the question as to whether they are financially strong enough to stand the cost of whatever engineering difficulties or other natural obstacles may be encountered, and to see the project through to a successful issue. It is perhaps natural that in the field of private corporation bonds, where it is possible to create such issues without any of the restrictions placed upon the creation of either of the other two classes, that the unscrupulous promoter should have made his appearance to a greater extent. However, the consideration of financial ability may be said to apply as well to bonds of the municipal district or "Carey Act" type. In connection with all three, moreover, the judgment, experience and stand-

ing of the bankers offering the bonds for sale, are factors, which all critics insist should be first investigated by the prospective investor, since it is usually impracticable for him to make an adequately thorough personal investigation of the property on which the bonds are secured.

In conclusion, it may be said that the merits of irrigation, as such, have been abundantly demonstrated in many of the Western states. The United States Government has recognized in a most practical way the possibilities and importance of it, by initiating through the Reclamation Service, projects for the irrigation of over three million acres of land at an estimated cost of $120,000,000, of which some $48,000,000 has already been expended.

For the better variety of irrigation bonds, especially those secured on ditches, canals, dams and reservoirs, already constructed and by settlers' property already in fruitful production, there should be an ever ready and continually broadening market.

CHAPTER XXVI

HOW TO INVEST WISELY

246. *Savings bank laws.*—Savings banks in several states are closely restricted by law as to the character of their investments and so strict are these laws that a bond which meets the requirement attains to the highest standard of safety. It may not be wise in all cases for an individual to pay dearly for extreme safety (for it must be remembered that every quality which an investment possesses is paid for), but every individual investor and especially those who have trust funds in their possession should thoroughly understand the high standards set by the savings bank laws. In several states the savings banks are of the mutual type, that is, they are conducted solely in the interests of the depositor, there being no capital stock. In other words, the banks are philanthropic institutions to encourage saving and the laws framed for their guidance can be thoroughly relied upon as a guide to absolute safety of investment. The states which have savings bank laws are increasing in number each year, many of the western states having just adopted such laws. The laws of New York, Massachusets and Connecticut are so strict, however, that they may be taken as most typical of the highest standard of safety. The laws of Massachusetts and New York differ only in detail and therefore, those of New York, which will be discussed in this place, can be taken as representative of the highest standards.

The New York law permits investment in United States and state bonds and in bonds of cities and towns in New York state. Bonds of towns outside the state are permitted where the population is at least 45,000, where the municipality has been incorporated for at least twenty-five years and the state admitted to the Union prior to 1896. Savings banks may also invest in mortgages of a certain class but not more than 65 per cent of the deposits shall be loaned on mortgage. The only other investments permitted are railroad bonds which fulfill certain requirements, and no bank is allowed to invest more than 25 per cent of its assets in railroad bonds and not more than 5 per cent in the bonds of any one road if that road is in another state or more than 10 per cent if it is in New York. No investment in a foreign railroad is allowed. Bonds of domestic railroads which meet with the following provisions are permitted:

1. The company must own not less than 500 miles of road within the United States. This is a road of fair size, and this provision was put in to keep out of the banks securities of small properties. Bonds of such roads can be purchased providing continuous dividends have been paid for the last five years of at least 4 per cent, and the interest and principal of mortgages and other indebtedness has been paid punctually.

2. The gross earnings for the five preceding years shall have been not less than five times the interest on the entire outstanding indebtedness. That is, if a road has an income of $1,000,000, one fifth of that would be $200,000; so that even if 80 per cent, or $800,000, was used for operating expenses—which would be a pretty high percentage—the surplus would still be sufficient to pay the interest.

3. The mortgage security issued, must be a first mortgage on not less than 75 per cent of the road's mileage, or a refunding mortgage issued to redeem all prior liens covering at least 75 per cent of the road, and such bonds shall not be bought if the mortgage of the authorized issue, together with the outstanding prior debts, shall equal three times the capital stock. This is to prevent investments in the mortgage of a railroad or branch that is not profitable.

4. Refunding mortgage bonds secured by the entire property of the road may be purchased under certain circumstances. They may not be bought if the authorized issue exceeds three times the capital stock of the road. This goes back to the question of dividends: Suppose the bonded debt is very large and the capital stock very small, the fact that a 4 per cent dividend has been paid for five years would have very little significance in determining the past earning history of the road. The refunding mortgage must cover at least 25 per cent more mileage than any of the prior mortgages to be refunded.

5. If the road owns less than 500 miles of road, but has gross earnings over $10,000,000 and otherwise meets the requirements, the bonds may be purchased.

6. If bonds are reserved to refund bonds of a subsidiary corporation, they may be bought if guaranteed by endorsement of the parent company.

247. *Investment of trust funds.*—The standards adopted in the investment of trust funds are of value as a guide to individual investment although as a rule the laws regulating the investment of trust funds are not as rigid as those governing the placement of savings bank deposits. Certain of the eastern states have the most rigid laws. Many men insert provisions in

their wills by which their trustees, in case the estate is left in trust, are given absolute discretion in the investment of funds at their disposal. Where there is no direction in the will the trustee is usually allowed by the courts to invest the money as men of prudence, discretion and intelligence manage their own affairs. They are expected to avoid speculative and untried securities but are rarely confined to any one class of bonds or stocks provided they place the funds in securities of corporations which have a good record. Usually trustees are permitted to go to the court for instructions when in doubt.

In Maine the rule of the Massachusetts courts is followed: "All that can be required of a trustee to invest, is, that he shall conduct himself faithfully and exercise a sound discretion. He is to observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent position of their funds, considering the probable income as well as the probable safety of the capital to be invested."

New Hampshire has perhaps the strictest rule of any of the states. Investments made by trustees, when not otherwise expressly authorized and directed by the instrument creating the trust, are confined by statute to the following securities:

1. Notes secured by mortgages on real estate at least double the value of the notes.

2. Deposits in Savings Banks of the State of New Hampshire.

3. Bonds or loans of the State of New Hampshire or towns, cities or counties of that State.

4. Bonds of the United States.

In Vermont a trustee is merely expected to use good

faith, diligence and care. In Rhode Island the trustee is merely required to observe the caution with which prudent men manage their own affairs and to avoid speculative and hazardous enterprises. The Connecticut law is more strict. If trustees do not invest in securities permitted by the savings bank laws they must exercise the greatest care to ascertain that the investment is safe whereas if they confine their investments to those allowed under the savings bank laws they are relieved of all responsibility except the duty to exercise good faith and common caution. New York has a strict law. Where the instrument creating the trust does not in express terms confer upon the trustee discretionary power the only classes of investments approved by the courts are: United States bonds, New York State bonds, bonds of towns and cities in the state and mortgages on unencumbered real estate within the state. Even where trustees are given discretion in the will they must exercise good judgment as is shown in Matter of Hall, 164 N. Y., 196, Cullen j., says:

> The range of the so-called "legal securities" for the investment of trust funds is so narrow in this State that a testator may well be disposed to grant to his executors or trustees a greater liberty in placing the funds of the estate. But such a discretion in the absence of words in the will giving greater authority should not be held to authorize investment of the fund in the new, speculative or hazardous adventures. If the trustee has invested in the stocks of a railroad, manufacturing, banking or even business corporation, which, by its successful conduct for a long period of time, had achieved a standing in commercial circles and acquired the confidence of investors, their conduct would have been justified, although the investment proved unsuccessful. But the distinction between such an in-

vestment and the one before us is very marked. Surely there is a mean between a government bond and the stock of an Alaska gold mine, and the fact that a trustee is not limited to the one does not authorize him to invest in the other.

In New Jersey the instrument creating the trust may give the trustee discretion as to the investments, but the giving of discretionary power does not absolve the trustee from the duty of observing prudence and caution.

Where the instrument creating the trust is silent as to the securities in which the trustee may invest, the courts have restricted investment to the following classes of security:

1. Bonds of the United States.
2. Bonds of the State of New Jersey.
3. Loans secured by the mortgages on unencumbered real estate lying within the State and worth at least twice the amount loaned.

By statute the range of securities has been enlarged by permitting trust funds to be invested in bonds of any county, city, town or township of the state where the total indebtedness does not exceed in the aggregate fifteen per centum of the assessed valuation of taxable property within the state.

In cases of doubt the trustees may apply to the Orphan's Court for direction as to investments.

In Pennsylvania when by the instrument creating the trust the investment of the fund is committed to the discretion of the trustee, his choice is free provided he exercises common skill, common prudence and common caution, and he is only answerable for unsuccessful investments when he has been guilty of supine negligence or willful default. Where the classes of investments are not designated, or the trustee is not given

discretion by the instrument creating the trust, he should invest in United States bonds, or mortgages on unencumbered real estate. Upon application the Orphan's Court may make an order directing the investment of trust funds in bonds of the United States, or of the State of Pennsylvania, and also in bonds or certificates of indebtedness of counties, cities, school districts, or municipal corporations of the State. The Court may also permit the investment of trust monies in ground rents or other real estate. The Constitution of the State forbids the enactment of any statute authorizing trust funds to be invested in stocks or bonds of private corporations.

248. *Investment for individuals.*—The investment of savings bank and trust monies constitute a valuable guide for the individual investor but such high standards of safety as are set by the savings banks especially cannot always be followed by an individual, particularly in these days of high living costs when the 4% derived from a savings bank bond is deemed insufficient. Securities must always be purchased to meet the requirements of each individual case. Successful investment demands a clear understanding of the problem to be solved in each instance. The president of a large manufacturing company who is in touch with business men and bankers of every description and who hears all the gossip as well as the real news of the business and financial worlds can afford to take greater risks than a retired clergyman of circumscribed means. The ordinary investor should bear in mind not only that securities which may be excellent investments for his neighbor, who is situated quite differently from himself, may not be suitable for him, but that advice should be sought from disinterested parties.

The financial editors of the newspapers and magazines which contain investment departments will usually give such advice and responsible and reputable dealers in bonds and other investment securities can also be depended upon. Of course all dealers are not trustworthy but no better advice can be obtained than that which any of the more reputable and responsible bond houses are willing to give.

249. *What to buy.*—The problem of what to buy can almost always be elucidated by a thorough study of the essential qualities which are possessed to a more or less degree by all investments. These qualities are:

1. Safety of principal and interest, or the assurance of receiving the principal and interest when due.
2. Rate of income, or yield.
3. Convertibility into cash, or the readiness with which it is possible to sell the investment.
4. Prospect of appreciation in price.
5. Stability of market price, or the likelihood of maintaining the integrity of the original investment.

Each of these qualities costs money and it is foolish to pay for those which the investor does not need. For example, the private investor often purchases securities which possess in a high degree the quality of convertibility into cash, when he is buying for permanent investment and has no thought of selling. In the same way a bank may purchase bonds which pay a high rate of income but possess poor convertibility, the latter quality being the one the bank most needs because it is buying bonds only until its general loan business improves and therefore requires investments which can be quickly disposed of when necessity arises.

250. *Investment safeguards.*—No matter how much care may be exercised in the investment of money ac-

cidents often happen. There is no way of foreseeing every development in the financial and business worlds and many of our greatest millionaires have made serious mistakes in their investments. Shrewd as was Russell Sage the executors of his estate found many worthless stocks in his vaults. Accidents cannot be foreseen or prevented but they can be absolutely insured against. Indeed successful investment is merely a form of insurance. This is done in two ways, namely, by anticipation and by distribution.

Accidents cannot be foreseen or prevented but they can be anticipated. As a rule stocks or bonds in which there is any element of risk should be purchased only where the income is extraordinarily high. A bond which yields 7 or 8 per cent may default interest but it is quite possible the investor will not lose in the long run, provided he has received several interest installments, because the large return more than makes up for the depreciation in price and temporary loss of interest, assuming the company is reorganized and the bondholder receives new securities. On the other hand a bond of the Chicago & Northwestern Railroad which yields less than 4 per cent probably has as little risk in it as can be found anywhere in human affairs, and the low yield in itself indicates that such is the fact. Of course the bond may decline in price because of the effect of money rates and other general causes outside the affairs of the company, but the bond is probably as near perfect safety as far as principal and interest are concerned as it is possible to secure.

A far better way to guard against loss in investment is to distribute one's investments. If there is any one point which should be iterated and reiterated it is the wisdom and necessity of wide distribution. No matter

how small the sum to be invested it should not be placed in any one thing. Andrew Carnegie advised the placing of all of one's eggs in one basket, but Mr. Carnegie spoke from his own experience rather than from that of the average investor. Probably none of us can ever know as much about any business as Carnegie knew about the steel trade. Moreover, Carnegie did not invest his money in the steel business. He traded with his money. There is a vast difference between trading and investment. When a man places money in his own business he is trading; not investing. A man may be able to know all about his own business but he can never know all about another man's business. Therefore it is never wise for an investor to stake all of his resources with any one person or corporation.

Insurance companies are able to live because they distribute their risks. The insurance company does not insure unless it is morally certain the insured is a "good risk." Nevertheless thousands of those who are insured die despite the rigid examinations, but the company does not lose because it has distributed its risks so widely that there are thousands who do not die. So it should be with the investor. He ought to be morally certain of the safety of each investment but even if it does go wrong he should have enough other investments to average down the loss. All large investors such as universities and insurance companies distribute their investments. The Equitable Life Assurance Society has its funds invested in more than 400 different issues of stocks and bonds. Even one of the smaller colleges, Amherst, has more than 200 different securities. The investor should distribute his funds, no matter how small they may be, in as many different corporations as he can, engaged in widely varying lines of business and situated in different parts of the world.

CHAPTER XXVII

THE INVESTMENTS OF MARSHALL FIELD

251. *Marshall Field's estate.*—The ordinary investor can learn much concerning the relative value of securities from carefully observing the character of investments made by men who have amassed great fortunes. This can frequently be learned by carefully following news of probates of wills in the daily newspapers.

Marshall Field, one of the richest merchants in the country, left an estate of over $40,000,000. This was made up as follows:

Money	$ 4,301,378.00
Stocks, par value	18,160,310.00
Bonds, par value	7,363,000.00
Syndicate subscriptions	1,616,450.00
Notes	2,318,269.00
Open accounts	9,280,084.00
Total	$43,069,524.00

We must bear in mind, of course, in reviewing Mr. Field's estate that his death was unexpected. As a consequence the inventory is typical of the holdings of financiers who anticipate several years of active life. The item "Syndicate subscription" would not have appeared in the statement of an ordinary estate. Such investments contain a considerable element of risk. They are business adventures and must be considered as such rather than permanent investments.

Dr. Edward S. Meade, of the University of Pennsylvania, has made an analysis of Mr. Field's investments. He says:

Of the open accounts given in the inventory, $8,486,607 was a debt of Marshall Field and Company, and $719,240 represented money advanced to the Field Museum, in which its founder took a deep interest and for which he provided generously in his will. Of the $2,318,269 of notes, $1,500,000 are the obligations of well-known corporations and firms, such as Armour & Co. and the Western Electric Company. The return on this paper, if purchased at par, exceeded 5 per cent. This is a form of investment with which persons of moderate means are not generally familiar, but which, it is to be hoped, because of the security and the high yield which good commercial paper offers, will eventually be made available, perhaps in the form of collateral for debentures, for purchase by the small investor.

We must pass over the syndicate subscriptions, which included $100,000 of International Mercantile Marine bonds, $100,000 of Pennsylvania 3½ per cent convertible bonds, and $760,000 of the Chicago City Railway—speculations whose outcome is now doubtful, and which, along with the other syndicate participations which Mr. Field held at the time of his death, indicate something of the risks which capitalists of smaller means take in underwriting transactions. We come to the investments proper of the estate. Excluding $3,400,000 of the stock of Marshall Field and Company, these stocks and bonds amount to $25,523,310 par value.

252. *His holdings of stock.*—Mr. Field's most important holdings of stock included the following:

Industrial stocks	$ 3,291,950.00
Railroad stock	9,336,200.00
Stocks of Public Service Corporations	1,431,650.00
Bank and Trust Company stocks	809,510.00
Total	$13,869,310.00

The balance of his stock holdings was made up of certificates of ownership in the Marshall Field Company, already referred to, and $891,000 of stock of uncertain value. This last represented holdings in

mining companies whose earning power had not yet been demonstrated, and securities of some philanthropic institutions in which Mr. Field was interested.

253. *Kinds of stock he held.*—Mr. Field held a considerable amount of industrial stocks in addition to his holdings in the Marshall Field Company, already referred to. He owned stocks of twenty-one important companies:

The list includes six of the so-called "industrials"—American Can, American Shipbuilding, Corn Products, International Harvester, National Biscuit, and Railway Steel Spring. In each case where these companies issue preferred stock, the holdings of the Field estate are about equally divided between prferred and common. We may, therefore, safely infer that these investments, which total $1,494,600 including $450,000 of Corn Products alone, were the leavings of syndicate subscriptions, either unsuccessful or withdrawn for investment.

Outside of "trust securities" the Field holdings of industrials are excellent. The more important include the following:

	Par value	Dividends
Pullman Company	$800,000.00	8 %
(36% stock dividend recently declared)		
Western Union Telegraph	100,000.00	5 %
American Telephone and Telegraph	150,000.00	7½%

In addition there are a number of small holdings aggregating $706,950, divided among twelve companies, most of which are prosperous.

Mr. Field's preference was not for industrials. He was a large holder of Pullman, and through the generous exaggeration common to newspaper men, was credited with owning a controlling interest. As a matter of fact—and this is true of many so-called "controlling interests"—his Pullman holdings at the time of his death were less than 1 per cent of the outstanding

stock of the company. His connection with the Pullman Company was of long standing. He was in a position to keep in close touch with its management and to understand the strength of its monopoly. Such an investment, while safe and profitable to Marshall Field, cannot be recommended to those who are less advantageously situated. I fail to find in the Field inventory any endorsement of "industrials" as investments.

The investor will be particularly interested in Mr. Field's railroad stock holdings. The inventory discloses that the par value amounted to $9,336,200.

	Preferred	Common
Atchison	$ 600,000	$ .....
Baltimore and Ohio	910,000	500,000
Boston and Maine	.....	107,000
Calumet and Chicago Canal and Dock	200,000	.....
Chicago and Northwestern	410,000	1,450,000
Chicago, Milwaukee & St. Paul	100,000	200,000
Chicago, St. Paul, Minneapolis & Omaha	130,000	200,000
Erie	60,000	.....
Great Northern	275,000	.....
Hudson Companies	.....	50,000
Illinois Central	.....	70,000
Mexican Central	.....	148,000
New York Central	.....	100,000
Northern Pacific	.....	311,000
Pennsylvania	.....	215,000
Reading	120,000	.....
Rock Island Company	250,000	130,000
Southern Pacific	50,000	.....
St. Louis and San Francisco	450,000	1,100,000
Union Pacific	140,000	.....
Total	$3,495,000	$4,781,500

Dr. Meade comments upon Mr. Field's holdings of railroad stocks as follows:

Railroad stocks represent the best form of stock investment. The business conducted by a railroad corporation is more stable than any other business except that of the public service corporation in the large cities. The railroad is a national monopoly; its operations are uniform the country over, which fact reduces the importance of individual officials to a railroad company, and, finally, the transportation business is visible, gen-

erally understood as to its nature and the factors which make for its successful management. All these considerations especially commend railroad stocks to the conservative investor.

And yet we are unable to infer from the stock investments of Marshall Field that he held railroad stocks as a class in especially high regard. Out of the $9,336,200 of railroad stocks held by his estate, $3,495,000, about 40 per cent were preferred stocks. These preferred stocks, moreover, with the exception of the Rock Island and perhaps the St. Louis and San Francisco, are so well secured by surplus earnings that they are practically equivalent to bonds and sell at bond prices.

The Field selections of common stock were scarcely less conservative. Out of the $4,781,000 of common stock, 40 per cent consists of the stock of one company, the Chicago and Northwestern, one of the most conservatively managed and best located roads in the country. Of the remaining eight stocks listed in the table only three—Mexican Central, St. Louis and San Francisco, and Rock Island—are non-dividend payers, and in the case of every other stock on the list the margin of surplus earnings is so great as to make the probability of a reduction of the dividend rate extremely remote.

254. *Conservatism of his investments.*—The conservatism of Mr. Field's railroad investments can be shown in no better way than by a statement of the surplus over their dividend requirements earned by the various companies in which he was interested during the last fiscal year. These margins of security are shown in the following table:

	Dividends Preferred over Surplus	Dividends Common over Surplus
Atchison	$12,219,787	$.....
Baltimore & Ohio	15,364,299	8,812,825
Boston and Maine	.....	217,273
Chicago, Milwaukee & St. Paul	7,309,896	3,237,876
Chicago & Northwestern	13,008,953	8,316,640
Chicago, St. Paul, Minneapolis, & Omaha	2,306,307	1,007,422
Erie, 1st Preferred	1,173,975	.....
2nd Preferred	533,975	.....
Great Northern	10,315,480	.....
Illinois Central	.....	4,209,539

	Dividends Preferred over Surplus	Dividends Common over Surplus
Mexican Central	.....	No dividend
		Surplus
		1,114,387
New York Central	.....	1,518,253
Northern Pacific	.....	5,555,760
Pennsylvania	.....	*8,429,881
Reading, 2nd Preferred	.....	4,540,969
Rock Island	235,515	No dividends
Southern Pacific	16,322,768	.....
St. Louis & San Francisco	1,789,394	.....
Union Pacific	27,782,642	.....

The security offered is in several instances greater than appears. For example, a large part of the St. Louis and San Francisco holdings consists of the trust certificates of the Kansas City, Fort Scott and Memphis, and the Chicago and Eastern Illinois, both of which come ahead of the preferred stock of the parent company, and the surplus of the Boston and Maine, although small when compared with those of the western roads, in view of the great stability of New England railroad traffic, is ample for safety. Taken as a whole, this group of railway stock investments, both for security of dividends and for the opportunities to participate in privileged subscriptions, would be hard to better. The last mentioned advantage has only recently been available in the case of the largest individual holding of the Field estate—Chicago andd Northwestern common. It is understood that most of the stock of such companies as the Atchison and the Baltimore and Ohio were acquired at low prices, shortly after the organization of these companies.

If any rules to guide the investor in the purchase of railway stocks are to be drawn from the investments of Marshall Field, they are, to avoid the speculative stocks (even in this safest field of industrial investment); to regard more highly the certainty of preferred issues than the possibilities of dividend increases, and to concentrate purchases on securities of corporations operating in the investor's immediate locality.

255. *Public service corporation holdings.*—We come next to

* Extraordinary expenses.

the public service corporation stocks in the inventory. The list is as follows:

Chicago North Shore Street Railway	$ 7,000
Chicago Edison	237,000
Chicago Telephone	65,300
Chicago West Division Railway	50,000
Manhattan Railway	50,000
Metropolitan Street Railway	80,000
" Securities	29,250
North Chicago City Railway	7,200
Northwestern Elevated Common	316,700
" " Preferred	316,700
South Side Elevated	272,000
Total	$1,431,150

Most of Mr. Field's investments were in corporations doing business in the large cities. Like most other rich men he preferred to invest money in those companies with known earning power. The small amount of securities held in the Metropolitan Street Railway Company and the Metropolitan Security Company, both of which have since gotten into financial difficulties, is a noticeable feature. These were, no doubt, originally acquired through some syndicate operation. A large portion of his investments in public service stocks was placed in the Elevated Railway of Chicago, with which he was thoroughly familiar and which he probably secured because of a participation in the original underwriting syndicates.

256. *Banking securities.*—Marshall Field, in common with most men of large means, fully appreciated the investment advantages offered by financial institutions, which profit not merely by lending their own capital, but by lending their credit, many times greater in amount. The inventory of his estate shows a par value of $659,600 in bank and trust company stock, divided as follows:

	Par Value	Market Value	Capital	Surplus	Rate of Dividend
Fidelity Trust Company, Philadelphia	$ 75,000	$ 803.50	$.....	$10,663,696	20
First National Bank, Chicago	50,000	300.00	8,000,000	6,781,713	12
First Nat'l Bank, New York	20,000	710.00	10,000,000	18,109,200	30†

† Reserve Fund.

	Par Value	Market Value	Capital	Surplus	Rate of Dividend
Illinois Trust & Savings Company, Chicago .	100,000	560.00	4,000,000	7,121,708	16
Manhattan Trust Company, New York ..	20,000	470%*	1,000,000	2,490,800	15††
Merchants' Loan & Trust Co., Chicago	280,000	370.00	3,000,000	10,451,025	12
New York Trust Company, New York ...	72,500	725.00	3,000,000	4,057,353	23
Northern Trust Co. of Illinois, Chicago ...	30,000	350.00	1,500,000	1,719,514	8
Royal Bank of Canada.	60,000	241.00	3,900,000	4,390,000§	9
Trust Co. of America, New York	10,000	780.00	2,000,000	10,471,670	32
United States Trust Co., New York	2,000	1,275.00	2,000,000	12,801,006	50

* $30 par. § Includes an extra dividend of 3%.
†† Total for 1906. Present quarterly rate is 8%.

The excellency of these investments can be judged by the extraordinary yield received upon a large proportion of this stock. We have no means of knowing when these investments were made, but we may safely judge that they were bought under very favorable conditions.

257. *Investments in bonds.*—The investments in bonds were made with exceeding conservatism. It would be impossible to analyze the bond holdings in detail without reviewing a large amount of recent financial history and considering in detail the financial conditions of the many corporations involved. All that we can do is to see the relative amounts of Mr. Field's holdings in the various classes of bonds. The inventory shows the following:

Governments, State and Municipal Bonds	$ 472,500
Railroad Bonds	3,888,000
Public Service Bonds	1,502,000
Industrials	928,000
	$6,790,500

Certain important facts are shown by these comparisons. The first is the relatively small amount of gov-

ernment, state and municipal bonds owned by Mr. Field. The low yield was unattractive to him, as it is to most investors desiring adequate returns upon their money, and consequently he did not place his funds in such investments. A noticeable feature is the entire absence of inter-urban bonds. The only possible explanation is that Mr. Field was very conservative in his selection of bonds, and perhaps had never been interested in inter-urban securities. It must not, however, be inferred that these bonds are undesirable. Many of them are entirely safe and their yield is very satisfactory. A relatively small amount of money was invested in industrial bonds and this should not pass unnoticed. The yield on such bonds is high, but the risks of the business are great. Whatever chances Mr. Field might take in his investments it is evident that he did not care to take any risks in purchasing bonds. The relatively large amount of public service and railroad bonds is noticeable. These investments were usually made of small amounts of many issues, all of which were well selected and protected by a large surplus of earnings.

The small investor, of course, does not possess the opportunities which Mr. Field enjoyed. He cannot participate in underwriting syndicates and buy stocks and bonds at wholesale prices. He should, however, endeavor to exercise the same good judgment as is employed by rich men. Most men get rich by successfully investing the money which they make. It is more difficult for the ordinary individual to invest his money intelligently than it is to make it in the first instance. If the millionaire cannot afford to take any risks it is even more important for the small investor to remember that the keynote of all investments should be the security of both the principal and income.

CHAPTER XXVIII

HOW NOT TO INVEST

258. *Unwise investments always contain speculative risks.*—The heading of this chapter implies the absence of the underlying principles which distinguish investment, as such, either from semi-speculation, where there is the tendency to minimize the risk, or from speculation, pure and simple, where the element of risk is at its maximum.

Investment, as the reader will have learned from preceding discussions in these chapters, is based upon the idea of permanency—the purchase and holding of an obligation or income-bearing property over a definite period of years, or, in some exceptional instances, even in perpetuity—with the reasonable assurance that the principal will be kept intact, and that the income will be regularly paid. On the other hand, in "speculation" and, indeed, in all of the accepted modifications of the term, the idea of permanency is usually absent, as is the assurance of safety of principal and certainty of income over any given period of time.

It is sometimes difficult to draw the line sharply between investment and speculation, but, in general, it may be said that a man "invests," when he undertakes to employ his surplus capital in any enterprise of established soundness and earning capacity for a given period of years and at a rate of income, which it is always possible to predetermine. In thus em-

ploying his capital, he usually assumes the position of a creditor of the enterprise.

He "speculates," when he undertakes to employ his capital in an enterprise, whose soundness and earning capacity are only partially, or not at all, established on a permanent basis. In this instance he usually assumes the position of a partner in the enterprise, where he is entitled to share in whatever profits may accrue, but where he must also share whatever losses there may be.

Within the field of speculation, using the term in its broadest sense, there are, of course, various degrees of risk, and it is the purpose of this chapter to attempt a differentiation of them. It will, however, be possible to set forth only a few principles of general counsel, founded upon the experience of, perhaps, a century or more of activity in the promotion of enterprises of doubtful or uncertain character, and in so doing, it is the intention of the writer to address himself particularly to the so-called investor of small means, as distinguished from the large investor of ample means, broad foresight and careful discrimination, who is in a position to employ his surplus capital in furthering industrial development without regard to immediate returns.

The great economic function of the man who speculates along the lines just suggested, is recognized the world over. Without that kind of speculation—without men, who have had the temerity to take the usual, and sometimes very large, risks, incidental to every legitimate business enterprise at its inception, it is quite possible to conceive of a country without railroads, without manufacturing prestige, and even without markets.

259. *The unscrupulous but plausible promoter.*—

But John Law and his Mississippi Bubble have had many imitators,—men who have grown in unprincipled ingenuity, and have so far diversified and extended their operations as to have become an actual menace to society. Such imitators of Law and his scheme make up that large class of promoters in this country, who undertake to induce the public to buy paper to which they attach the names, "stocks" or "bonds," merely for personal gain, and without any intention of using the money so procured in the development of a railroad, an industrial enterprise, a mine, or a scientific invention. It is against such that warning has to be continually sounded. It is that class of enterprise to which the small investor's attention should first be directed.

The scheme of the unscrupulous promoter may almost invariably be recognized by the manner of its presentation. The picturesquely illustrated, sensationally phrased, widely distributed advertising prospectus is its badge of distinction. Nowadays, appeal is made to the cupidity of the average man usually in one of three ways; either through the mails, through the advertising columns of the daily or weekly press, or through the columns of "newspapers," so-called, edited, printed and circulated by the wily promoter, himself. It is noteworthy with what unanimity the representations, so circulated, promise: first, unusually large profits through appreciation of the price of the shares offered, with absolutely no risk; second, an immediate income return on the invested capital, although under the most auspicious circumstances, it would take years for the development of the proposition; and third, an ultimate earning capacity equal to such successes as Bell Telephone, or Standard Oil.

260. *Worthless oil stocks.*—Oil stocks are particu-

larly to be avoided, as they are offered to-day. We have the word of an authority on obsolete securities that of all the stocks to be found in the graveyard of modern finance, they are probably the most hopelessly worthless. There will never be another Standard Oil, yet scarcely a week passes, during which the public is not told in unequivocal language of the discovery of something, which has as great, if not a greater future. On such announcements large amounts of stock are sold which if the corporations have any legal existence at all, usually turns out to be backed merely by leases on lands, which may never even have been suspected of bearing oil, and by no real assets, whatever.

One of these companies, which has recently passed out of existence, was originally announced as an investment which should pay savings bank depositors the dividends to which they were by right entitled, namely 7 per cent. Just before its death knell, which was sounded by the jailing of the defrauding promoters, it sent to its 5,000 or more stockholders a statement of financial condition intended to justify the payment of some few thousands of "dividends," as they were called, which had been made during the year. The statement was cleverly constructed, as most of them are, but it was analyzed, and it may have been the analysis, which proved the beginning of the end. It showed, for instance, that the total of all disbursements properly assignable to expenses, had been approximately $350,000, while gross proceeds from every source, except (and this is the important point to note) *from the sale of stock* had been only $195,000, leaving a deficit of $155,000. The dividends had been paid, as the remainder of the statement showed, from stock sales. Among the other items to which reference

may be made, for example, were: revenue from oil sales of something like $11,000, with no deductions made for operating expenses; stock sales, some $300,000; accounts payable, presumably payments due on stock, $52,000; and equipment, $840. And the concern was a five million dollar corporation.

261. *The risk in mining stocks.*—Next to oil stocks, and almost on even terms with them as to worthlessness are mining stocks, according to our authority above mentioned. He facetiously adds, however, "mining stocks are generally handsome and make the best kind of wall paper; indeed, one of the most hopeful ways to make an old mining stock good is to use it for that purpose; then there is a fair chance that some one may want it." That there are good mines—those which have turned out to be even of unexpected value, and have returned to those who helped to finance their development, handsome profits, indeed—just as there have been good oil wells, all investors know, but the number of "paper" mines, used to induce the public to gamble at long odds, or at no odds at all in its favor, outnumber the good ones by the thousands. One may take up his daily paper at almost any time and read of the collapse of a promotion of this character. The writer has before him a newspaper account of the testimony given in the trial of a suit brought against a certain prominent, and one-time respected, promoter by some of the defrauded stockholders of a Cobalt exploitation which recently collapsed, containing a statement, which seems to go to the root of what we are endeavoring to impress upon the investor. Asked why a $5,000,000 stock subscription was first offered to the public on what were alleged to be fraudulent representations, the promoter replied:

Usually in a mining company a man selects offhand any number of shares that may appeal to his imagination, or the imagination of the public. There is never any rule to go by in the flotation of a mine.

He might have added that it is the credulity, the imagination, and even the stupidity of the small investor, which are the promoter's best assets.

Another good example of the operations of such promoters was recently given during a court hearing, when it was brought out that the mining company, whose affairs were under inquiry, had only one claim, which originally cost $400, but on which $1,000,000 stock had been sold. At this hearing the suing "investors," who had found themselves loaded with worthless stock, learned that the principal expense, which the promoters had incurred in the development of their property, was the cost of the advertising campaign. Perhaps it was left to the imagination of the investors to satisfy themselves where the lion's share of their money had gone.

262. *The charm of new inventions.*—But the small investor's mistakes have not all been made in mines and oil wells. One of the worst mistakes which he can make at the present time, according to the financial editor of the *World's Work,*

is to become possessed of the idea that he should back a new invention. Just at the moment it is airships. A little while ago it was talking machines. Thousands of people in all the civilized countries of the world lost much money trying to reap fortunes from the much-heralded field of wireless telegraphy. It would be quite impossible to estimate the amount of money that has been thrown away by usually sane and sensible people during the past ten years in an effort to make a substitute for the cable, and the telegraph and the telephone.

Wireless, of course, has its possibilities, but it is a decade or more since its discovery and still it has not been developed to a point of commercial success—and it may never be. Through the devious ways of the holding company it has been "financed" into disrepute and its chief promoters have landed in jail, charged by the Federal Government with using the mails to defraud.

263. *Gullibility of the public illustrated.*—It is, indeed, surprising how frequently the public has found itself possessed of absolutely worthless stocks, based upon inventions heralded as actually revolutionary in character, merely through its failure to act in accordance with the principles of common sense. The exploitation of a device, announced as destined to bring about great changes in the printing and publishing trade, not long ago caught countless victims. It was pictured as a marvel of economy, for the adoption of which printers would ere long be falling over one another, and in which there would be profits "almost beyond belief," since each machine would net at least $1300 above the cost of making and selling. This was no ordinary investment, said the promoters; if the stock were to be placed on the market at even greatly increased prices, it would quickly be taken up by some of those capitalists, who are always on the look-out for maximum profits and minimum risk. An instant's reflection should have revealed the transparency of the statements. By what strange circumstance had the promoter been induced to act the part of the philanthropist in refusing the increased offer of the "capitalists" and in letting the public in "on the ground floor?" Why, in fact, was it necessary to offer stock at all, when the trade to be dealt with was one of the largest and

most progressive in the world, always quick to adopt and pay well for any kind of labor saving improvement? Such representations as these ought to be ample warning to a public that is not able to judge the real merits of the inventions, to let the propositions alone.

It is in the promotion of such enterprises as have just been described that the use of the sensational prospectus is perhaps the most common at the present time. It follows from what has been said that the prospective investor should be on his guard against them. Such statements as have already been analyzed, provided that, in spite of them, he suspects some merit in the enterprise, should, at least, put him on further inquiry to satisfy himself, if possible, as to the character of the men who are selling the stocks or bonds; with what enterprises they have been associated before; the success or failure of these enterprises; and how much of their own capital they have invested in the present venture. It must be remembered that many a mining company, for example, has been wrecked, and its stockholders left with little or nothing of their invested capital solely through dishonest promotion. In fact, as a writer in the New York *Evening Post* recently remarked, "the entire history of New York's curb market is speckled with such incidents."

264. *Laxity of state incorporation laws.*—There is another point in connection with such ventures, which should never be overlooked in the endeavor to reach a conclusion regarding their merits, and that has to do with the laws of the state, where the company is incorporated. In the volume on CORPORATION FINANCE in this series the advantages and disadvantages, from the point of view of the investor, of incorporating under the laws of some of the principal states were pointed

out. Some of them seem actually to put a premium on questionable practices in corporate management, and it may be said that Arizona has one of the worst laws in this respect. This advertisement appeared not long ago in one of the Denver mining publications:

INCORPORATE YOUR BUSINESS UNDER ARIZONA LAWS.

Most liberal in the United States. No franchise or annual tax. Members exempt from all corporate debts. No public statements to be published or filed. Capitalization does not affect cost. Cost very small. Charters cannot be repealed by subsequent legislation. Hold stockholders' and directors' meetings and transact business anywhere. Any kind of stock can be issued and paid up in cash, services, or property and made non-assessable. We sell stock for and finance newly-incorporated companies.

"PHOENIX, ARIZONA."

Aside from the latitude given by such laws in respect of taxes, directors' liabilities, capitalization, etc., the importance of which has heretofore been explained, the matter of the publicity of the affairs of the company is particularly important. The business of mining, from its very nature, is in a constant state of liquidation and stockholders ought to be frequently and accurately informed as to its progress. Behind such a provision of the law, which exempts the incorporators from the necessity of furnishing such information, it is possible to commit many a fraud.

265. *An electric railway illustration.*—No better example of how the skilful promoter may turn up in unexpected fields of enterprise has ever been afforded than that which came with the announcement three or four years ago of the project of a coterie of Western men to build an electric railway from Chicago to New

York. Railroad development had until that time been generally supposed to have reached a stage where the ordinary methods of "wild-cat" finance would no longer be associated with it, yet here was a proposition, which its originators said was to revolutionize the railroad business of the world. They have sold to some fourteen thousand gullible individuals between seven and eight million dollars' worth of stock, and they are still working. Shut out from the advertising columns of the respectable press of the country, they are publishing their own "newspaper," a recent copy of which will bear analysis, as containing some of the best illustrations of those statements, which have always to be looked upon with suspicion.

In the leading article of the edition in question under the caption "Progress of the Work," the exploiters of this fanciful railroad, which, by the way, is projected to run as the crow flies, between the two great commercial centers of the country, address a fervid appeal to the stockholders for their continued support, insisting in the strongest manner possible on their sincerity toward the work they have undertaken, and asserting that the proposition as an investment is so good that nothing can prevail against the persistence and energy of the men back of it. "In the midst of a financial storm, which shook the country," they plead, "opposed by powerful interests, belittled by an ignorant or subsidized press, forced again and again to defend their stockholders from the depredations of wreckers and thieves, we have actually secured franchises and created railroad property worth several millions of dollars, which will go on earning money for its stockholders and their descendants forever."

Several items of miscellaneous news follow from the

localities near which one terminal of the road is supposed to be under construction, and then a skilfully constructed argument on how a great merger of Chicago traction properties may be taken as a most emphatic endorsement of the air-line project, and the opportunity it has, as well as a recognition of the enormous business, which the road will bring. But the *piece de resistance* of the edition is a full page advertisement headed "Preferred stock will advance in price. Last opportunity for stockholders to secure a twelve per cent investment at present prices."

"Hundreds have money in savings banks," the advertisement continues, "drawing from 3 per cent to 3½ per cent interest, which might just as well earn 12 per cent during the next eighteen months. More than that, they have now an investment, on which they can realize a revenue of 5 per cent a year during the next eighteen months by the mere making of a 12 per cent investment. January is the best time for depositors to draw their savings from the bank, it being the close of an interest period. As 7 per cent dividends and 5 per cent interest begin to accumulate from the very day the preferred stock is purchased, there should be no lost time. . . . No one familiar with the situation can question the business opportunity which confronts our stockholders or the ability of the first division of the road to earn more than 7 per cent dividends."

Let us see about this 12 per cent "investment." The thirty-six miles of road, the first division of the system, let it be remembered, is not yet in operation. Whence come, then, the 7 per cent dividends promised? They do not come now, and there is no assurance that they ever will. The catch is in the word "accumulate." The preferred stock is of the "cumulative" type, whose char-

acteristics have already been defined for the reader. The dividends will accumulate to the credit of the holder of the stock, and will have to be paid before anything is distributed to the holders of the several millions of common stock, but they are not an obligation against the company until such dividends are declared. The 5 per cent interest will probably be paid for the eighteen months, as promised; but how? On this point the announcement is not explicit. The promoters are frank in saying that the interest offer is made with the express purpose of hastening the sale of the stock, although it is difficult to reconcile this statement with the one at the head of the advertisement regarding the rise in the price of the stock. Those who purchased on this announcement will find at the end of the eighteen months, when the interest will have ceased, that the promised rise was merely in the price at which the stock could be bought from the company—that it did not mean a rise in the market price. There is no market.

Unfortunately there have been thousands of people, who have been able to fix in their minds' eyes this absolutely straight railroad in operation between Chicago and New York, with the public clamoring for tickets to ride on it, with merchants insisting on having their goods shipped over it, with the express companies paying high for contracts with it, and with the Government giving the bulk of its mail to it. They have never stopped to consider that, as one financial writer has pointed out, "at the prices obtainable for the stock of the air-line, it would take between $300,000,000 and $400,000,000 of stock to buy its terminal (New York) alone, let alone build its line from Chicago to New York."

266. *Projected railroads of strategic importance.*— There is another phase of modern railroad promotion, which almost always possesses the ear-marks of legitimate and promising enterprise, but with which the investor should proceed with extreme caution. We refer to those projects admittedly conceived for their strategic value alone. Several years ago some capitalists planned such a railroad in one of the Western states, succeeded in interesting, not only Eastern, but foreign capital, built their road to tap some more or less important coal fields, and sold to the public several millions of dollars of first mortgage bonds, largely on the representation that the new road must sooner or later be taken over at a good price by one of the larger transcontinental systems, with which they had been successful in getting a connection. The bonds were sold at a fairly high price, but although there is no evidence that the proceeds of their sale were dishonestly used, they are to-day of only nominal value. The railroad on which they were secured, of course, failed from the first to earn its fixed charges; the state in which the road was built forbade the sale to the larger system; and a receivership was the result, with practically no hope for a reorganization in which the interests of the bondholders could be fully protected.

Real estate has, almost from time immemorial, been a favorite medium of speculation, and it will probably have to be admitted, generally speaking, that it has proven to be exceedingly hazardous. It would be as difficult to estimate the losses of the thousands, who hypnotized by free rides and brass bands, have poured their savings into the lap of the latter day land-boomer, as it would be to estimate the losses of those who have sunk their money in fictitious mines, or oil wells, or

backed their all on a new invention, which didn't "pan out."

267. *Deceptive real estate "bonds."*—But the real estate promoter has more recently developed along what may be called scientific lines. His methods have become more subtle, his appeal is now made more to the apparently conservative public than to the enthusiastic crowd; and what is more, there are many very honest and very successful promoters, both individuals and corporations, operating along these lines. One large corporation in New York City, with a record of some twenty years of profitable business, stands out as somewhat of a model. It owns and develops carefully selected real estate for income or for sale, financing its operations by the issuance of 6 per cent bonds, which are sold in small denominations either in the form of straight obligations, or in form similar to certain types of insurance policies, making it possible for one with small capital to accumulate a definite amount in a given period of time by investing the equivalent of an ordinary yearly interest during the term on the amount desired.

Such bonds, however, attractive as they may seem on the basis of what our model corporation has been able, through wise and conservative management, to accomplish, are not without their serious faults, as media for the investment of small savings. Contrary to the impression, which many, possibly most, investors have had at the time of purchase, the bonds do not possess a direct mortgage lien on any definite piece of realty. True, they are the direct obligations of the company issuing them, and, as such, have a claim against its assets, but they are sold to enable the company to purchase and develop its real estate for a profit—to en-

able it to speculate, in other words—and it is obvious into what position the bonds would fall, were these operations to turn out unprofitably. Throughout the United States, in all of the principal cities, corporations have been formed to copy the plan we have just been describing, and although the record of these corporations is not uniformly bad, it has not been such as to place the class of investment propositions, which they represent, on a plane where the most thorough investigation need no longer to be insisted upon.

268. *Risks of investments in real estate.*—Direct investment in real estate is for the average person of small means a risky expedient, except, of course, where the investor is thoroughly familiar with the property. The so-called "development" propositions may be very good and they may be very bad, and it is a regretable fact that the bad outnumber the good. An investor should never put his money into real estate until he has visited and carefully inspected the property; until he has satisfied himself that its location is such, with reference to transportation facilities, etc., that it is bound to enhance in value, (or, at least, not depreciate) through improvement in surrounding property, and until he has gained a thorough understanding of the terms of the contract of sale. The importance of these considerations may be illustrated by the recent experience of purchasers of property in a certain "development" tract on Long Island.

The promoters of this proposition had for a year or more, been selling at ridiculously low prices "choice building lots," which someone finally discovered to be swamp lands, worth possibly three or four dollars an acre. The lots had been disposed of by agents—no advertising, whatever, was done—most of whom had

never seen the property, themselves, but who in their representations were compelled to rely entirely on the confidential descriptions furnished by the promoters of the proposition, who also, apparently on the suspicion that some men, at least, had consciences, took care that an agent was not sufficiently long in their employ to become familiar with their methods. When the utter worthlessness of the property was discovered and endeavor was made to secure the conviction of the "sharks" on the charge of obtaining money under false pretenses, it was found that in each contract there was a clause to the effect that the company could not be held responsible for any statements made by its agents. The victims recovered nothing, but fortunately the Government authorities were able on other grounds to put a stop to the fraud.

269. *Guaranteed stocks.*—We have already suggested the alarming manner in which the charlatan promoter has diversified his operations. From oil he has turned to mining, from mining to the field of invention, then to the railroad, and to real estate, and sometimes he has been found interested in all of these simultaneously. Some of his other favorites, as they have been announced recently in certain newspapers, which seem not to care to what perverted use their advertising columns are put, are rubber culture, banana growing, lumber development, and the multitude of enterprises, which may be put under the general classification of industrials. A prominent banker dealing in the highest grade of investment bonds not long since remarked to the writer that it was highly significant that throughout the period from the fall of 1909 to the fall of 1910, during which there was a steadily diminishing demand for securities such as he dealt in, there

had apparently been no difficulty at all on the part of the industrial promoter in disposing of his great variety of cumulative preferred stocks, some of them with dividends "guaranteed," issued against business ventures of no established reputation, whatever. He added that such ventures ought to be backed by business men, with their own capital, but that after a few unfortunate experiences with them, such as were practically inevitable, the public would see the fallacy of such investments and turn again to investment bonds.

Stocks to which the term "guaranteed" is so frequently attached nowadays are undoubtedly alluring to the average person seeking to employ his surplus at as high a rate of income as is possible. Yet there is nothing which may prove more hollow and baseless than many of the guarantees which are offered. Even the best of them have been known to turn out valueless through some slight legal technicality, and the unfortunate part of it is that their weaknesses are never discovered until difficulty arises—until it is too late for the investor to save himself.

Investigation shows that many of the small issues of stock under this classification, which have been sold to the public within the past two or three years, are guaranteed by subsidiaries to the issuing companies formed for that specific purpose and usually exhibiting formidable looking balance sheets, which seldom, however, stand close analysis. The fallacy of such an expedient is clear, when one stops to consider that a guarantee is only needed in case of failure, and that failure of the companies issuing the stock in these cases would mean immediate destruction of the guarantees, themselves.

270. *Wild-cat insurance stocks.*—The stocks of life insurance companies need not be given much thought

from the investment standpoint, as the so-called mutual companies have no stock and the present tendency of stock companies appears to be toward mutualization. In many cases the dividends which may be paid are limited by law and frequently the stock is governed in price by the desire of large financial interests to control a certain company rather than by investment considerations. Nearly all the larger and more successful life companies are either mutual in form or are privately owned.

Stocks of fire insurance companies are in many cases desirable investments. They should not be taken, however, by investors other than those who can afford to take risks. The fire insurance business is described by an authority as one which in its nature is profitable but hazardous. Through the law of averages the percentage of loss over a series of years can be pretty definitely ascertained, but there is the constant danger of the occasional great fire which may destroy in a few hours the accumulated profits of many years of successful business. Many were the fire insurance shareholders who learned this fact to their sorrow after the San Francisco fire of 1906. Careful management will distribute risks over a wide area and the investor should always be wary of a company whose risks are concentrated. One feature in favor of fire insurance stocks is the fact that the custom of paying premiums in advance gives the companies a large fund to invest in addition to their capital and surplus, and if these investments are wisely made a source of income is added entirely apart from insurance business itself.

In the last few years the country has been flooded with new insurance companies whose stocks have been widely scattered among investors. In the first half

of 1910 no less than 229 new insurance companies, life, fire, casualty and surety, were formed with a total capital of nearly $210,000,000. The field is already well occupied and as every one knows who has had much experience with insurance agents it is no easy matter to sell insurance for even the old established companies. Of the new mushroom companies probably not more than a dozen will succeed. The great majority are the creations of designing promoters whose primary and sole concern is selling the stock at prices to net them a handsome profit.

Investors need consider only two points. When the big profits of the large insurance companies are cited, it should be remembered that these profits come from the great bulk of the business written and that the margin of profit is small. In the second place, a new company must always offer unusual inducements to get any business at all away from the old line companies and to do this often exhausts their resources. An idea of what the better class of insurance stocks are like is afforded by the following list of New York city fire company shares, the quotations being of August, 1910:

FIRE INSURANCE STOCKS.
[Revised by E. S. Bailey.]

	Capital	Approx. An. Div.	When Payable	—Price— Bid P. C.	Asked P. C.
City of N. Y.	$500,000	10	Q	...	205
Commonwealth	500,000	10	J&J	326	...
Continental	2,000,000	40	J&J	925	950
Empire City	200,000	8	J&J	125	...
Fidelity-Phenix	2,500,000	V	V	260	265
German Alliance	400,000	15	J&J	275	300
German Americ'n ...	1,500,000	30	J&J	560	570
Germania ($50)	1,000,000	18	J&J	285	295
Glens Falls ($10) ...	200,000	30	J&J	1525	...
Globe & Rutgers	400,000	40	Q	475	...
Hanover ($50)	1,000,000	10	J&J	200	210
Home	3,000,000	30	J&J	680	695
Nassau ($50)	200,000	10	J&J	165	175

	Capital	Approx. An. Div.	When Payable	—Price— Bid P. C.	Asked P. C.
Niagara ($50)	1,000,000	20	J&J	300	305
Nor. River ($25)	350,000	10	A&O	155	165
Pacific ($25)	200,000	6	J&J	135	145
Peter Cooper ($20) .	150,000	6	J&J	90	105
Stuyvesant	400,000	10	J&J	155	160
Un. States ($25)	250,000	V	V	60	70
Westchester ($10) ...	400,000	35	F&A	455	...
Willmsbg Cy ($50) ..	250,000	20	J&J	380	400

V No information. Q Quarterly.

271. *Enterprises requiring expert knowledge.*—With reference to such ventures as rubber culture, banana growing and lumber development, little need be said here, except that they are enterprises essentially for private capital alone, until they have been thoroughly proven and placed on a basis where the permanency of their earning capacity is established beyond peradventure. They are businesses requiring perhaps more than the usual amount of expert knowledge, with which to cope with the peculiar elements of uncertainty, which characterize them. There have been notable successes from the investor's point of view in this field of endeavor, such as the United Fruit Company, for instance, but in no other field has the proportion of failures been so great.

In this discussion the endeavor has been to point out in what general classes of enterprise the specious propositions of "investment," so-called are most often found, to illustrate some of the more common forms of their presentation, and to show the underlying fallacies of such propositions. The warning has been sounded particularly against those things which are brought to the attention of the public by means of the glaring advertising prospectus, against those, which hold out the promise of unusually large profits, without risk, and against those, of which little or nothing is known, except through the representations of the promoter. We may add in

conclusion, that whenever definite effort is made to attract the attention of the public to stocks or bonds by wide circulation of reports that they are about to advance in price, there is usually something militating against their inherent soundness. It has come to be an investment maxim that stocks or bonds ought never to be bought on the sole consideration that they are "bargains." There's usually a reason, and until the prospective purchaser has satisfied himself as to the character of it, his savings might better remain in the bank.

CHAPTER IX

PANICS AND DEPRESSIONS

272. *Wall Street panic.*—One of the most interesting things connected with the study of speculation is the investigation of trade cycles and the study of the causes which lead to panics and depressions.

Panics are of two kinds. The first, which has been dubbed "the Wall Street panic," is nothing more or less than speculative and financial hysteria and is largely confined to Manhattan Island. Such financial fevers may develop in the midst of industrial prosperity, and are caused by conditions entirely apart from the circumstances surrounding the business of the securities involved. Examples of such panics are the Northern Pacific panic of 1901 and the panic of 1903, both of which have already been reviewed. These panics, however, are as a rule temporary affairs and their consequences are entirely different from the so-called commercial panics which vitally effect every person in the country. These Wall Street panics are usually brought about by the selling of securities by disappointed holders who have bought at high prices in expectation of selling at a greater advance. The way in which such a panic comes about is usually as follows:

Suppose that prices of securities have already reached a very high point. Most of the speculators in the market being bulls by nature, expect that stocks will go still higher and, therefore, purchase securities long. Instead of going higher, however, the price, which has

already advanced to a point beyond that justified by basic conditions, begins to recede, and ultimately it dawns upon these disappointed purchasers that prices are not going as they expected. Frightened by the drop they begin unloading their holdings. Many of them are compelled to sell because their margins are exhausted, and others sell because of fear that the prices will go much lower. The decline consequently continues until prices reach a level where investors are willing to buy. A point is finally reached at which all stocks offered for sale are gradually absorbed by the standing orders of those who do not make a practice of speculating, but who nevertheless buy when they find good securities selling at bargain prices. It is at this time that the downward tendency is checked and then usually ensues a period of dullness. Any further decline meets with a constantly increasing number of standing orders to buy. Speculators at such times are by no means enthusiastic and there are very few speculative purchases in anticipation of an advance.

This period of dullness usually lasts until the more foresighted begin to see reasons for an upward movement in the future. The shrewd operators begin to buy in order to profit by the anticipated advance. They are willing to buy at a slight advance over and above the market prices which have been fixed all along by the real investor. As soon as this slight upward tendency of the market is perceived, others will make haste to purchase while prices are still relatively low. Their demand, however, causes the market to go still higher and financial papers begin to say that the market "looks strong." More buyers realize what has happened and begin to be optimistic concerning the upward movement and will therefore purchase. This movement con-

tinues gradually, with interruptions, of course, due to profit taking, until prices reach a level which is high enough to induce the shrewdest investors to dispose again of their holdings. Every further rise in the market is met by orders to sell, until finally a large number of stocks pass from those who actually own them as interest-bearing investments to those who hold them on speculation expecting a further increase. Finally there comes a time when the sales by investors become heavy enough to start a decline, and then the reckless speculators, who, because of their unfounded faith in still higher prices, took over these securities on borrowed money, find themselves in trouble. The consequence is that prices begin to decline and the speculators who now hold these securities become dissatisfied and again begin to unload their holdings, thus aggravating the downward movement, which usually continues until shrewd investors find it profitable to enter the market again as purchasers.

The explanation here given is not intended to describe what may always be expected. It is given to show the way in which the upward and downward movement usually takes place. An endless variety of incidental factors occur from time to time which modify in part the general rule of procedure outlined above.

The "trade cycle" as distinguished from the so-called "Wall Street panic" has been said to include ten or eleven years, roughly divisible into three years of depressed trade, three years advancing trade, and three years of excited trade, followed by a panic. Too much emphasis should not be placed upon the number of years included in the cycle. It is only a noteworthy fact that history does show that our commercial panics have occurred at reasonably regular intervals, the big panics

about twenty years apart and intermediate depressions of less importance about midway between, or every ten years.

273. *The commercial panic.*— To explain the operation of a commercial panic let us start with the period of depression during which production and consumption are largely disorganized by the preceding collapse. Everything is being readjusted on a lower scale. People feel comparatively poor and many have lost because of the depreciation of their property. The effort on the part of all to economize results in the use of fewer and cheaper goods, and by thus cutting down consumption, production must also be cut down. The cutting down of production, in turn, means the cutting down of wages and the throwing of workmen out of employment, thus producing the so-called "vicious cycle." Capitalists have no courage to invest in new enterprises and those who have their money in business conduct their operations with the greatest caution.

This period of depression is followed by a period of expanding trade. This second stage is usually brought about by some important event which starts the upward movement. It may be a political change or a new governmental policy as in 1896, which caused capitalists generally to become more confident and thus to undertake new projects. It may be a sudden expansion in our foreign trade, a heavy expenditure on the part of our government, an exceptionally large crop, or any other auspicious event. It is on the chance of such an event that the operations of the irrepressible speculator have been based. During the period of depression there was very little incentive for speculation, that is to say, there was very little inducement to buy things at a low price with a view to selling them at a higher price.

Now, however, some of the more thoughtful men in business as well as in the security market have been expecting that history is going to repeat itself and that the trade cycle is going to take the course which it has always taken so far as historical records give us information. Now when this class realizes that the demand for goods is actually increasing and if the other circumstances concerning our industry are such as to convince them that everything is ready for an era of more active trade they begin to exercise their shrewdness by acquiring industrial machinery and materials at low prices. At this time it should be noticed that the attempt to profit by foresight is confined almost entirely to investors and business managers. The general public is by no means convinced of a permanent improvement, the small shop keepers are still reluctant to lay in a stock of goods, while farmers are taking advantage of the first slight rise in prices to sell their products.

The wide awake entrepreneur, however, is constantly increasing his stock of raw material and is much less keen to sell his finished products than he was before. Slowly there is a rise in prices all around and there is an accumulation of profits to those who were shrewd enough to see the tendency of the time.

Following this there appears a great pressure of capital seeking investment. Trade is becoming active and there is a steady accumulation of funds in investors' hands awaiting profitable employment. This money at first is to a very large extent invested in stocks and bonds until such securities are so sought after that they reach prices so high as to yield but a small rate of interest on the money invested.

This investment in securities, however, produces one very important result. The advance in the price of

securities resulting from the increasing demand is always accompanied by heavy stock exchange speculation and it is this speculation which more powerfully than any other factor directs the attention of the public to the upward trend of prices, and in turn produces a very important and sympathetic effect upon the prices of commodities. A larger and larger number of people begin to see that a period of prosperity is ahead. Many begin to speculate definitely and intentionally. As has been said, "They buy what they do not want in the expectation of selling it at a profit. The vast majority merely buy quickly what they would otherwise have bought cautiously and sell slowly what they otherwise would have sold urgently. In buying them they pay the seller's price and in selling them they set their own figures and hold to them tenaciously, thus aiding the advance, but at the same time increasing their stocks on hand."

This period of increasing speculation in securities and in products is followed next by a period marked by the creation of new enterprises. Capital accumulates to such an extent that it overflows the opportunities for ordinary investment and begins to seek other outlets. It is at this point that numerous new projects in transportation, manufacturing and mining are floated. Many of these, as develops later, have no real value, yet they find ready support. Men of all classes begin to pyramid upon the boom.

274. *Pyramiding.*—Pyramiding is a practice whereby a man invests capital on a margin in a speculative transaction; when the price has gone up a few points he sells out and reinvests his capital together with all his profits on another small margin in the same or a new speculative venture. When the security has again risen a few points

he sells out and reinvests all of his capital with his new profits in another speculative transaction, and continues this until ultimately he has a large sum of money in a speculative transaction on a very small margin. A slight slump in the price of the security is apt to wipe out all his capital as well as the profits made in former transactions.

The pyramiding of the business man is very little different from that of the stock speculator. Large orders are coming in, and in view of the prosperity prevailing, they invest all their profits, together with considerable borrowed money, in new plants or in the enlargement of their old plants. They make new profits, which they invest, until ultimately the inevitable reaction comes, when they have on hand large plants and large fixed charges altogether out of proportion to the actual requirements of the changed conditions. There has been created, however, a certain momentum which it is difficult to stop. The higher prices go the more speculation increases; the more ready is the buyer of goods to pay a slight advance and the less urgent is the seller to dispose of stocks on hand.

275. *Crisis.*—Finally things are ready for a turn. It is usually brought about by the action of the shrewdest. There are times when it is better to permit money to lie idle than to invest it in any other form of property. When prices were rising these men turned their money into goods; when prices have risen to such an extent that they fear a fall they begin to turn these goods into funds and are content to leave these funds in the bank, even though the interest return is very small. In a time of depression money is by far the most valuable asset possessed, because the price of money goes up as the value of the commodities goes down. The movement may

be explained by the following example: "A sells property to B and puts the money in the bank; the bank in turn lends the money to B with which to pay for the property."

As time goes on a greater and greater number of men begin to follow the practice of disposing of their property at top prices, and it is soon observed that prices are showing irregularity and that there is, on the whole, a spasmodic tendency downward. At first, however, the mass of people involved do not appreciate the tendency of the times and hold on. When prices decline many of them are induced to borrow more money rather than to liquidate. Still on the whole the desire to sell spreads from one stratum of society to another until it becomes general.

When this period has been reached there next develops a desire on the part of the keenest capitalists to accumulate cash; they fear an epidemic of failure and consequently the embarrassment of the banks in which up to this time they have been willing to deposit their cash. They now realize that cash is the most important of all possessions. To extend the illustration that was given before: A sells property to B and puts the proceeds in the bank, the bank lending the money to B to pay for the property. A next draws money from the bank, compelling the bank to recall the loan made to B. B, not possessing the money and being called upon to repay the loan, is obliged to sell the property back to A and at whatever price A is willing to pay for it. When this point is reached many banks begin to call in loans and as a consequence suspicion becomes general throughout the community.

The final stage may be said to assume in a general way the following phases:

1. The failure of certain large banking or commercial houses, usually because of undue expansion of liabilities, inducing suspicion of other bankers.

2. The banks, to protect themselves, begin to reduce their engagements. This means a general calling in of loans and as a consequence those who have relied upon continued banking accommodations are forced into bankruptcy.

3. To prevent insolvency, individuals or institutions who have thus relied upon continued banking accommodations and have been conducting their business largely upon credit will endeavor to sell the merchandise or securities which they possess at the best price obtainable. This desire to sell, moreover, occurs at just the time when the buyers are most timid. It must be clear that the result must be a violent fall of prices; and this fall of prices will in turn cripple many other dealers and operators who are conducting their business on borrowed money.

4. When liquidation becomes thus general and unreasonably low prices prevail, various deposit banks begin to fail, causing the great mass of bank depositors to take alarm. If matters do not change, the general public proceeds to withdraw its bank deposits in the form of cash and to hoard the money. A run of this kind, such as those occurring in 1873 and in 1893, strikes at the very root of our whole credit system. The climax of the movement is usually the deliberate withdrawal of cash from the banks by shrewd capitalists and investors, who because of selfish interests are beginning to realize possibilities of profit by providing themselves with the means of purchasing plants and securities at ridiculously low prices.

Then follows the industrial panic. Merchants and

manufacturers confronted with loss and ruin will hasten not only to dispose of all pending agreements, but to cancel engagements or any liabilities for the future. The result, however, of this cancellation of engagements is the curtailment of production on an enormous scale. Profits are wiped out and workers must be discharged. There is, therefore, a large decrease in the income of both employers and employés. Decreased income in turn means decreased purchasing power, and so we have again the "vicious cycle" which for some time will mean business depression, discouragement and stagnation.

276. *Leading theories of the causes of depressions.*— The real cause of trade depressions is generally admitted to be over-speculation and the over-extension of the credit system. This diagnosis, however, is not accepted by all writers on financial subjects. From time to time various doctrines have been advanced by writers on economics as the cause for the constantly recurring periods of prosperity and depression.

One school of economists has for years been advancing the doctrine that great trade movements are dependent wholly upon the output of precious metals. This doctrine was especially current during the panic of 1893, when the repeal of our silver purchase and treasury note inflation legislation coincided with hard times. If this doctrine is correct, it would seem that the period of boom and the period of depression should bear a reasonably close relation to the production of the precious metals. An examination of financial history shows, however, that such a coincidence does not always exist. In a discussion of the causes of panics by Mr. Alexander Noyes in the *Atlantic Monthly* for October, 1906, the author says that this doctrine is by no means supported by the actual state of affairs preceding our

great panics. He shows that in the decade ending with 1850 the output of gold throughout the world doubled as compared with the ten years preceding, yet that decade, especially in its latter half, was marked the world over by financial reaction. Again, he shows that during the five years ending with 1855 the expansion of the country was progressing at an enormous scale. During that period the whole output of gold, according to the Sotboer method, was $662,500,000; during the next five years, 1855–1860, the whole output of gold was $670,500,000. Yet despite the fact that there was actually an increase in the output of gold during these five years, they are remembered as years of panic and severe depression. Likewise the disasters of the years of 1893 and 1894 occurred with a continuous increase in the annual supply of gold production both in our own country as well as throughout the world. Mr. Noyes says: "If commercial booms or commercial panics occur at regular intervals this recurrence can hardly be ascribed to the waxing and waning of the output of precious metals, which are not regular at all. That sudden large increase in such production will help along financial expansion and that a similar sudden decrease will retard expansion will, however, hardly be disputed."

Another theory which was at one time strongly advanced, but is now discredited, is Professor Jevons' famous "sunspot theory," which he propounded in 1875. Mr. Jevons' attention was attracted to the remarkable regularity in the intervals between one commercial panic and the next. He found that for England the dates of such crises were the following: 1701, 1711, 1721, 1731, 1732, 1742, 1752, 1773, 1772, 1773, 1783, 1793, 1804, 1805, 1815, 1825, 1836, 1837, 1847, 1857, 1866, 1878.

In other words, Professor Jevons found that the in-

terval in England between one crisis and the next was approximately from ten to twelve years. In seeking an explanation for this apparent regularity of periods of depression he happened to discover that these dates corresponded almost exactly to the years when the maximum number of sun spots were observed. He therefore contended that the sun spots had a harmful effect upon the crops, causing deficient harvests, which in turn brought on industrial disaster. Most astronomers and biologist, however, fail to agree with the ingenious economist.

A more convincing reason offered as an explanation for the constantly recurring trade cycles is the theory that panics accompany the so-called cycle of agricultural prosperity. This theory is unlike the Jevons theory in that it does not assume that panics necessarily accompany periods of deficient crops, because history shows that a coincidence between panics and poor crops cannot be traced.

This school argues that, following a period of depression, the output of the world's agricultural industry is at first not sufficient to keep pace with consumption. With the increase in prosperity, however, and the consequent growth in consumption there follows a movement to increase the producing of the earth and the agricultural output. The agricultural output increases so rapidly as not only to overtake the normal demand of consumers, but actually to exceed it. As soon as this point has been reached lower prices are inevitable. This results in a loss of producers and consequently blights prosperity in the states depending upon agriculture. It is pointed out, for instance, that in 1890 the Baring panic in England was started by the diminished profits

of the South American grain fields in which London had invested an enormous amount of capital.

Upon closer examination it will appear that the cycle of agricultural prosperity almost coincides in point of time with the period of business prosperity. This theory is attacked on the ground that it does not distinguish carefully between cause and effect. Mr. Noyes in commenting upon it says:

> The fact that consumption is largest during periods of a commercial boom and that afterwards at the moment when production has increased most largely, consumption suddenly declines, or at all events ceases to increase at the previous rate, may be itself ascribed to the influence of prosperity or adversity. Certainly a community where employment is abundant, wages high and confidence in the future universal, will spend for food a vastly greater amount than a community where labor has suddenly found difficulty of employment and where the future is full of uncertainty . . . From this point of view it is quite as reasonable to ascribe the vicissitudes of agricultural prosperity to the ups and downs of industry in general as to ascribe commercial booms and crises to the vicissitudes of agriculture.

Another theory—the most convincing yet presented—is that commercial depressions are due to over-speculation and an over-extension of credit. The regularity of the twenty-year interval is explained by most writers as being due to the fact that this period comprises approximately the period of activity of a business generation. Old leaders have mostly disappeared and new men have taken up the reins of business.

These successors have been trained in times of prosperity and plenty. Hard times are to them an unknown condition. They feel that commercial conditions have changed and that the development which has occurred

under their eyes has corrected the old wasteful system in which feverish prosperity alternated with industrial chaos. It seldom happens that the first stages of any two succeeding panics are exactly alike. The new generation of business men fails to see or refuses to heed the danger signals, and deluding themselves into a fancied security plunge unprepared into a financial and industrial cataclysm.

277. *Johnson's analysis of the panic of 1907.*—In the *Political Science Quarterly* for September, 1908, Professor Joseph French Johnson presents the following analysis of the nature and causes of the crisis and panic of 1907:

A crisis is the culmination or turning-point of a period of prosperity, and is always followed by a period of liquidation, during which business contracts and the prices of commodities and securities decline. It is essentially an event connected with the use or abuse of capital. A panic is a temporary paralysis of a country's credit system and may be caused by any conditions which undermine the confidence on which credit is founded. A crisis is not always attended by a panic, and panics sometimes occur in years not marked by crises. For example, in the summer of 1903 there was a crisis in the investment of capital in corporate enterprises, but there was no panic. On the other hand, in 1896, near the end of the long period of liquidation following the crisis and panic of 1893, President Cleveland's Venezuela message caused a small stock-market panic in Wall Street. When a crisis is not attended by panic phenomena, the course of the subsequent period of liquidation is normal and entirely satisfactory: the necessary readjustment of prices and wages is made, speculative enterprises collapse, and weak business houses go into bankruptcy, but concerns which have managed their affairs with prudence suffer only a temporary reduction of profits. When panic attends a crisis many really solvent business houses are crushed. Crises are doubtless inevitable, for the conditions

leading up to them could be prevented only by a more than human combination of sagacity and discretion. Panics, however, are unnecessary; they are almost invariably the product of remediable defects of the credit system.

The crisis of 1907 took place in January, the panic in October. The crisis was a world-wide affair, being felt in all countries where gold was the standard money. The panic was a local manifestation, being confined to the United States.

The crisis which began in January, 1907, was the effect primarily of the exhaustion of capital funds by wars, industrial and general business requirements and speculation; and it was more severe in this country than elsewhere because our banking institutions had made unduly heavy advances on securities, had suffered their cash reserve to dwindle to the danger point and had not properly increased their assets by the enlargement of their capital and surplus accounts. The crisis was marked at the start by a rapid decline of stocks in the month of January, 1907—a decline that was not checked until the end of March. This drop of stocks, which has passed into history as the "silent panic," was due in the main to the fact that certain large interests were obliged to sell and that there were no buyers willing or able to pay the high prices at which stocks were quoted at the beginning of the year. During 1906, on account of needs that seemed imperative, railroads and other corporations had subjected the money market to intense strain by their issues of new stocks and bonds. As business was active in Europe, the Bank of England had been forced to raise its rate of interest to six per cent in order to protect its gold reserve. Railroad earnings had been large during 1906, but Congress had passed the Hepburn Rate bill and among investors there was a fear that the future of railroads was under a cloud. The important factor, however, was the shortage of capital as compared with the vigorous demand for it from merchants and manufacturers all over the country. The country banks, in order to take care of their home customers, were obliged to drop their loans on securities, and these had to be sold by the owners, for the New York banks were unable to make advances on them.

The situation was, in many respects, similar to that which prevailed in 1903, when the New York banks found themselves burdened with collateral of declining value. There had then been two years of great activity in the stock market and large issues of the stocks of industrial corporations had been underwritten and put upon the market. The financiers had overestimated the capacity of the public to digest securities. In other words, there was then a shortage in the supply of investment funds and an imperious need for money in business, which made necessary the withdrawal of support from Wall Street. That crisis was temporary in its effects, being confined mainly to the financial market. Nevertheless, for a year the country's business ceased to expand, some industries were obliged to curtail operations, and the total of failures was unusually large.

The crisis of 1907, if our banking system could have stood the strain, would probably have been only a little more severe than that of 1903. In 1907 the country's business was more expanded; the prices of securities and of commodities were higher; debts were bigger; there were in existence more new enterprises whose prosperity depended on the continuance of boom times; and more money was locked up in unproductive real estate and worthless mining stocks. All this meant that a more painful and probably longer period of liquidation was necessary than in 1903; but there should have been no panic; no sudden or general shut-down of factories, no long list of failures, no army of unemployed men. We should have had a year or two of enforced economy, of sagging commodity prices, of part-time employment of labor and of reduced dividends, but not a year or more of worry and distress.

There are several good reasons why this critical year might have been lived through without panic and without a single sound concern being pushed to the wall. I shall stop to mention only two of them.

First, the great industries of this country are in very strong hands. Whatever may be the evils of industrial combinations, there can be no doubt about one of their great benefits: they bring the greatest industrial wisdom the country possesses to

bear upon the employment of capital. We may not approve of all their policies nor of some of their methods, yet we must admit that the men who are managing the dozen great railroad systems of the United States and the great industrial combinations in steel, copper, leather and other important staples, are vastly better qualified for their work than were the thousands of small men who were in control, and were working at cross purposes with one another, in the same fields twenty years ago. This is a matter which the public does not generally understand. Everybody admits that capital is timid; yet the average man fails to see that, since the timidity of capital must make it eager to avoid unnecessary risks, it must follow that the large owners of capital will be willing to entrust the management of their affairs only to men of the clearest heads, strongest wills and highest characters. The day of the financial pirate and freebooter in the United States has come almost to an end. This is not recognized by the American people, and President Roosevelt may have some doubt about it, but I, for one, am convinced that it is so. And it is because the great manufacturing and transportation interests of this country are now under the direction of our ablest business men, who know and would avoid the evils of fluctuating prices, panics and unemployed labor, that I believe the capital and stock market crisis of 1907 would have brought no great shock to this country if our banking and currency system had not been inherently and fundamentally unsound.

A second great strengthening force, which was lacking in 1893, is found in the financial condition of the agricultural classes. Twenty years ago the western farmer was carrying heavy mortgages. To-day he belongs to the capitalist class. Farmers have profited by the rise of prices during recent years: they have gotten out of debt and have saved money. The panic of October caused very little disturbance in rural communities, and the subsequent depression of industry has given the farmer little concern. That the agricultural classes are in good condition is indicated by the fact that bank clearings in the smaller western and southern cities were almost as large in June, 1908,

as during the same month in any previous year. As farming is our basic industry, so the farmer is our most important consumer. Since he is now in an easy condition, our industries are not likely to suffer long from a weak demand for their products.

The reader will be justified in inferring from the foregoing that I do not regard the panic of 1907 as a great industrial and financial cataclysm, such as were the panics of 1873 and 1893. I certainly do not. On the surface, the events of 1907 were more startling, more spectacular, more unexpected than the events of either 1873 or 1893. There was a greater fall of prices in the stock markets; rates of interest here and in the great centers of Europe were lifted higher; there were more evidences of popular excitement, more runs upon banks, larger issues of emergency currency, more hoarding of money and a longer period of bank suspension. All these phenomena, however, are superficial. They can be produced at any time by unreasoning fright. They tell no story whatever with regard to the fundamental conditions of trade and industry.

The panic itself was the product of a combination of circumstances: the exhausted lending power of banks, their lack of organization and unity, the crop-moving demand for cash and, finally, a public with nerves set on edge by the insurance scandals, Mr. Lawson's romance about the "system," President Roosevelt's tirades against predatory wealth and various dire prophesies uttered by leaders in financial and industrial affairs.

Among the panic-producers we must also reckon the currency reformers. It is astonishing how little the average business man knows—or did know two years ago—about the way banks are run. About two years ago the newspapers began to take an interest in the currency. Their editorials and articles, showing how dependent every bank is upon the solvency of other banks, how helpless all would be in case of a panic, and how the magnificent total of their deposits represents a gigantic indebtedness created by loans and many times exceeding the amount of cash in the country, undoubtedly possessed for many readers an unsuspected "news" value. "What would happen

if all the depositors wanted their money at the same time?" That question was in people's minds more than ever before, and there was only one answer—panic.

In a country having a model banking system—such a system as experience has thus far shown to be best—no combination of evil conditions could cause general loss of confidence in banks. On the other hand, under the banking system of the United States, no augmentation of cash reserves and no guaranteeing of deposits will save us from panic. Unless the reserves equaled 100 per cent of deposits, in which case the bank would cease to be a credit institution and become a mere safe-deposit vault, the time would come when frightened people would question the ability of the guarantor and insist upon the conversion of their deposits into cash. Our banks had an abundance of cash last October, but millions of it were hoarded where it was not wanted and the other millions were so scattered among 16,000 institutions that there was weakness and terror everywhere and strength and confidence nowhere. If, when the Knickerbocker Trust Company closed its doors, our bankers had displayed confidence and had adopted a liberal policy toward borrowers, the day might have been saved: or if the Clearing House banks of New York had supported the Knickerbocker Trust, as the Bank of England supported the Barings in 1890, there would probably have been no panic. However, we have no right to blame the country banks because they grabbed all the money in sight, nor the New York banks because they let the Knickerbocker go down. Both banks and depositors were in the meshes of a system, not the bogy system of Mr. Lawson, but an artificial, law-imposed system, which made it impossible for the strong to succor the weak or for the weak to utilize their own resources in self-defence.

CHAPTER XXX

TESTS OF FINANCIAL AND INDUSTRIAL CONDITIONS

278. *Investigation to discover the financial condition of the country.*—Every speculator endeavoring to define the future course of the stock market gives serious attention to the condition of trade and industry, and to the probable effects which it will have upon the prices of securities. He understands in most cases the phenomena of trade cycles and he endeavors from the experience of the past to locate as closely as possible the position of the country in the time of cycle. Having done this he forecasts the probable course of events during the next few months. The professional speculator endeavors to take advantage of the conditions as they exist, discounting both the rise and decline, profiting alike by the prosperity and misfortune of his country. The situation which he endeavors to define has been summed up very picturesquely by Frederick Engels as follows:

> The whole industrial and commercial world-production and exchange, among all civilized people . . . are thrown out of joint about once every ten years. Commerce is at a standstill, the markets are glutted, products accumulate, as multitudinous as they are unsalable, hard cash disappears, credit vanishes, factories are closed, the mass of the workmen are in want of the means of subsistence because they have produced too much of the means of subsistence, bankruptcy follows upon bankruptcy, execution upon execution. The stagnation lasts for years; productive forces and products are wasted and destroyed

wholesale, until the accumulated mass of commodities finally filter off, more or less depreciated in value, until production and exchange gradually begin to move again. Little by little the pace quickens. It becomes a trot. The industrial trot breaks into a canter, the canter in turn grows into the headlong gallop of a steeple-case of industry, commercial credit and speculation, which finally, after breakneck leaps, ends where it began—in the ditch of a crisis. And so over and over again.

The practical benefits, however, of understanding trade cycles depends upon the ability so to read signs as to determine the condition of the country at the time. What then should the speculator look for in forming his judgment of the probable trend of events in the near future and in determining the actual condition of industry in the country at the time? There are a number of factors to be taken into consideration. First is the volume of bank clearings for the one hundred and fifteen clearing houses operated in the United States. These clearing houses report weekly their total clearings, which are tabulated by various journals and publications at frequent intervals. The volume of bank clearings is important because it indicates the activity of trade. Every check which is given by one man to another in payment of a debt or in fulfillment of some obligation, with the exception of those which happen to be turned over to men who are depositors in the same bank as the drawer or maker of the check, passes through the clearing house. As a consequence the volume of bank clearings means practically the total amount called for by all of the checks of the country drawn during the year. The volume of clearings increases in good times and falls off in times of depression. When industry is active and trading is brisk transactions are frequent, and in addition the high prices which are demanded for se-

curities and commodities under such conditions make the total amount involved in such transactions larger than when prices are depressed. As a consequence we find that bank clearings are enlarged during prosperous years, which are almost always years of high prices. On the other hand periods of stagnation materially diminish the total bank clearings. Business is stagnant and manufacturers and dealers make few sales. The number of checks passing around from hand to hand is consequently reduced. In addition the depressed prices which prevail in hard times means that the total amount cleared by the reduced number of checks will be still smaller. This shrinkage is, of course, reported in the statistics turned in by the clearing house. The following table from 1897 to 1907 shows the fluctuations in the bank clearings during the last decade:

1897	57,000,000,000
1898	68,000,000,000
1899	94,000,000,000
1900	86,000,000,000
1901	118,000,000,000
1902	118,000,000,000
1903	109,000,000,000
1904	112,000,000,000
1905	143,909,000,000
1906	159,808,000,000
1907	154,662,000,000

It will be noticed that the halt in the progress of industry in 1900 and again in 1903 is shown by the reduced volume of clearings in these years, while the effects of the panic occurring in the last two months of 1907 are reflected in the volume of clearings for that year.

The speculative interests also use another standard in judging the activity of trade and particularly of the condition of the banks. They make comparisons of the deposits, loans and cash reserves of the banks somewhat as follows:

	Deposits	Loans	Cash
1897	1,669,000,000	1,886,000,000	420,281,000
1898	1,982,000,000	2,158,000,000	440,000,000
1899	2,232,000,000	2,299,000,000	508,000,000
1900	2,481,000,000	2,481,000,000	476,000,000
1901	2,754,000,000	2,814,000,000	552,000,000
1902	2,982,000,000	3,128,000,000	561,000,000
1903	3,159,000,000	3,350,000,000	570,000,000
1904	3,300,000,000	3,469,000,000	614,000,000
1905	3,612,000,000	3,728,000,000	669,000,000
1906	4,088,000,000	4,071,000,000	668,000,000
1907	5,256,000,000	4,678,000,000	701,000,000

The information which is furnished by such a comparison falls under three heads. The first concerns the volume of deposits. Periods of prosperity during which people make satisfactory profits mean an increase in bank deposits. On the other hand a shrinkage in deposits—which seldom occurs—or a shrinkage in the rapidity of growth, indicates stagnant conditions. The banker watches in this connection even more eagerly the relation of the cash reserve to the deposits. The above table shows that during the years 1897 to 1907, for example, the deposits in national banks increased from $1,669,000,000 to $5,256,000,000, while the cash reserve increased from $420,281,000 to $701,000,000—that is to say, the ratio of cash holdings to loans in 1897 amounted to 22 per cent, whereas in 1907 the ratio had fallen to 16 per cent. This ratio of cash reserve to deposits is significant as showing the inherent strength which lies behind the banking situation. The small cash reserve indicates that the banks are finding it difficult to meet the requirements of the law to maintain a specified cash reserve for every dollar of deposits. A large ratio of cash to deposits indicates an easy financial condition and reserve power in the banks which can be called upon to meet any emergencies.

The conditions which brought about the panic of 1907 could have been foreseen, and were in fact predicted by

many observers, from the conditions which are shown in this comparison. The constant fall in cash reserves meant that the banks had reached the point beyond which they could go no further. It only needed, therefore, the slightest unfavorable development to precipitate serious trouble. The situation which existed was summarized by the *Commercial and Financial Chronicle* as follows:

> It cannot be said that there was any period of ease in money throughout the year 1906. At no time did the rate of discount as regards the banks go lower than 3½ per cent and in the autumn of 1906 it rose successively to 4 and 5 and finally to the unusual figure of 6 per cent. In 1907 it rose to the very unusual rate of 7 per cent. At four different times during the year 1906 the New York Clearing House Banks showed a deficiency in the 25 per cent requirement. In the last ten years the average interest rate for time money had risen approximately from about 37/10 per cent to 67/10 per cent. An increased rate for time money necessarily means a decline to low prices for bonds, preferred stocks, or other securities having a fixed rate of income. The result has been that during the last six years the highest grade of national, municipal and railroad bonds of the world have declined an average of about 20 per cent. The holders of British consols, it has been said, during the last eight years have not only lost as much in the shrinkage of the value of consuls as they have received in interest rates, but they lost the difference in purchasing power (35 per cent) between what one hundred pounds sterling would have bought then and what it will buy now.

279. *Investigation to ascertain industrial conditions.*— Turning from the field of banking to the field of industry the speculator investigates the condition of certain industries which he regards as typical of the entire busi-

ness of the country. The business which is generally accepted as reflecting most accurately the condition of the country is the iron and steel industry. To this, therefore, the speculator directs special attention. The reason why the iron and steel business furnishes the best basis for judging industrial conditions is interesting. The demand for iron and steel comes largely from two sources. The first class of purchases is for the renewal of iron and steel work which has been in place for several years. Illustrations, for example, are furnished by the purchase of steel rails by the railroads to replace those which are worn out, and the purchase of steel by locomotive builders, ship builders and boilermakers to replace machinery which has become unfit for service. The second source of the demand for iron and steel comes about through the large new construction enterprises which are carried on in good times. New railroads are built, old lines are double tracked, the increased volume of traffic calls for more cars and locomotives. Almost all railroads at the present time buy steel cars when making new purchases. Locomotives are made almost entirely from this metal. New ships are built, electric railways are constructed, causing heavy demands for steel rails, power houses are enlarged, using great quantities of steel. New office buildings are constructed, demanding a large quantity of structural steel for the frame work which carries the entire building, and again wooden bridges are replaced with steel structures. In fact, there is hardly any new work undertaken which does not call for a considerable amount of steel in order to carry it to completion.

The steel business therefore is more intimately associated with the prosperity of the country than is any other business. In periods of good times the demand

frequently far exceeds the supply for months and years at a time. Buyers are forced to book their orders a year or more in advance and to patiently await the ability of the steel companies to deliver.

In hard times, however, there are few industries which are more severely hit by the depression than the iron and steel business. The demand for new work almost immediately ceases, for funds are not forthcoming and the situation does not invite the launching of new ventures. On the other hand, however, the demand for steel for purposes of renewal is very largely reduced, if not entirely cut off. The ordinary concern finds its funds fully used in meeting the necessary requirements of the business without spending considerable sums in the improvement of its plant.

Since steel is manufactured in so many forms, the work of compiling statistics for the production of this product is exceedingly difficult. Practically all of the iron which is produced at the present time is turned into steel and it is therefore more convenient and equally as satisfactory for the speculative and financial interests to use the production of pig iron as a gauge of industrial activity. The record of decade ending in 1907 was as follows:

TONS OF PIG IRON PRODUCED.

1897	9,652,680
1898	11,773,934
1899	13,620,703
1900	13,789,242
1901	15,878,354
1902	17,821,307
1903	18,009,252
1904	16,497,033
1905	22,992,380
1906	25,307,191
1907	25,781,361

280. *Significance of railway earnings.*—Another gauge used with equal frequency and upon which great

reliance is placed is the record of railway earnings for the United States. The railroads are required by law to report this information to the Inter-State Commerce Commission at regular intervals. This body tabulates these reports and issues the results from time to time. In addition certain financial publications, notably the *Commercial and Financial Chronicle,* performs this work at more frequent intervals. These figures are carefully perused by the investor or speculator. The record for the decade ending in 1906 of the gross earnings of the railroads was as follows:

GROSS EARNINGS OF RAILROADS.

1896	$ 879,000,000
1897	974,000,000
1898	1,050,000,000
1899	1,128,000,000
1900	1,216,000,000
1901	1,495,000,000
1902	1,542,000,000
1903	1,753,000,000
1904	1,755,000,000
1905	1,907,000,000
1906	2,131,000,000

The reasons that railway earnings are such a satisfactory barometer can be easily understood. The earnings of the railroads arise from four sources; first, from the carrying of freight; second, from passenger traffic; third, from mail, express and miscellaneous matter; fourth, the income received by railroads from their investments. Each of these sources of income feels keenly each change in industrial conditions. The freight traffic measures accurately the volume of business conducted by the country. Most of the products which are bought or sold in commerce and trade are handled at some time or other by the railroads. The transportation from the farm or the factory to the consumer yields traffic to the railroads and contributes to its income. The volume of

its business depends practically upon the industrial condition of the country. The freight traffic of the railroads decreases in hard times and increases in periods of prosperity. To a certain extent the rates charged for the handling of business fluctuate in the same manner.

The passenger traffic is made up of those who travel for pleasure or business. In periods of hard times the travel for pleasure is reduced. Stagnation in business also decreases passenger travel, for trade being dull many drummers are discharged or make fewer trips.

The third source of income is similarly affected. The volume of mail and express varies with the conditions of trade. Active business means more letters and a heavier express business.

The final source of the railroads' income also fluctuates with changing industrial conditions. There are many railroads in the United States which hold an enormous quantity of the securities of other roads. These are purchased to assist the holding railway in carrying out some project by securing in this manner the coöperation of the road whose stock is owned.,Industrial depression is likely to bring on a decrease in the dividends paid upon these securities. The railroad whose securities are owned finds in many cases that, because of a decrease in the receipts derived from freight, passenger and miscellaneous business, it must reduce its disbursements to its stockholders. This means a reduction in the income received by the holding company from its investments.

281. *Significance of conditions in the bond market.* —Various other standards are used in endeavoring accurately to analyze the situation. Considerable attention is always paid to the volume of new issues of municipal and corporate bonds which are put out from time to time, and the success which is met with in their sale.

When a ready market exists and bonds can be sold with little difficulty at good prices, the situation is regarded as encouraging. When, however, bonds can be sold only at a heavy discount or by offering unusually high rates of interest it is recognized that the situation is dangerous. The continuance of industrial prosperity is dependent upon the ability of corporations to borrow money by the sale of bonds. Almost all of our large corporations are chronic borrowers.

Corporations can raise money either by the sale of stock, by the sale of bonds or by the sale of short time notes. The sale of stock has certain disadvantages. In the first place the corporation likes, if possible, to have a new issue bought by the same interests which hold that already outstanding. In this way the control of the company will remain in the same hands. The sale of stock, therefore, except under special conditions, is not generally looked upon with favor by stockholders because it forces them to increase their investment in order to insure the continuance of their control. In addition the stockholders look upon themselves as the owners of the company. They realize that the bond holders are its creditors and that to them belongs nothing except the interest for which they have bargained.

To secure new funds by the issue of stock is frequently regarded as inexpedient because the money thus secured must command a higher return than would have to be paid for its use had it been raised by the sale of bonds. A corporation in high credit can in normal times raise funds by selling bonds carrying about a four per cent interest rate. The stock of the same corporation may pay six or seven dividends. For every thousand dollars of new capital secured by the sale of bonds the annual charge upon the corporation will be forty dollars, while

if it is secured by a new issue of stock the corporation must provide sixty or seventy dollars in order to pay the dividend. This extra outlay brings no benefit to the original stockholders. It is to their interest to secure the new money as cheaply as possibly and the sale of bonds appeals to them, for the extra twenty or thirty dollars upon each thousand dollars of capital can then be divided among themselves instead of being distributed to those furnishing the new money.

The determination whether the corporation shall raise money by the sale of stocks and bonds is therefore a matter which depends largely upon the situation of the company and the attitude of its shareholders. The larger proportion of the new capital is usually secured by the sale of bonds.

All of our large corporations must constantly expand and enlarge their plants. It is immaterial whether it is a steel company, a railroad corporation or a copper company. New funds must be provided in order to construct new plants and provide the additional facilities required to provide for the growing business. A policy of non-extension invites competition and soon puts the corporation in a position where it is overshadowed by its more progressive rivals. The enlargement and extension of the plants of corporations, as we have seen, provides a market for a large proportion of the output of our great industrial companies. New construction involving large expenditures is necessary in order to keep the steel mills fully employed. Locomotive and car builders, in many ways, are dependent upon the necessity of additional equipment in order to keep their plants running at full time. There is scarcely any plant or industry engaged in the production of machinery, tools or building material which does not rely, to a large

extent, upon the business arising from the enlargement of existing plants or the construction of new ones.

So long, therefore, as money is available all over the country and especially in the newer districts such as those in the west and south, armies of workers are digging tunnels, laying tracks, building bridges and buildings, while in the rail mills, the equipment shops, the mines and the lumber camps another army is busy producing the materials and machinery for this new construction. If the investor does not buy the bonds and the stocks of the corporation which is doing this work, the work must slacken everywhere, and in many places entirely stop, while the new work which must be continually coming forward to take the place of completed undertakings in maintaining the demand for materials and labor, will not be begun. The continuance of prosperity, therefore, depends on an active security market, upon the ready sale of bonds and stocks, and also necessarily upon an easy loan market from which the funds to buy securities are, in the first instance, derived.

In the volume on CORPORATION FINANCE a complete explanation is given of the way in which new securities are floated. Underwriting syndicates must carry through their undertakings largely with borrowed money. So long as this money is forthcoming, bankers are willing to assist them in taking new issues of security. When borrowing becomes difficult it is only the exceptional security which finds a market, the great mass being required to wait until money is easier and it is possible to finance their purchase. Under such conditions the corporations which are seeking new funds must adopt one of two policies. They can either postpone or stop work, which is unfortunate for the country, or they can resort to temporary financing to tide

over the stringency and provide the money necessary to continue the work. The cessation of work is a hard blow to a corporation, for the money already invested is of no value until the work is completed, and in many cases serious deterioration will result through the failure to complete the project.

The methods of temporary financing are well illustrated in the financial history of 1905, 1906 and 1907. Corporations found that the sale of long-time bonds was so undesirable that they offered instead two or three-year notes which were sold to the banks and underwriting syndicates. These notes were the ordinary promissory notes of a company secured in most cases by deposit of collateral. The advantage of this plan is always that the high rates of interest are only temporary. When the bond market again reaches normal conditions a corporation expects to be able to issue bonds at 4 or 4½ per cent and thus to secure the money necessary to retire their 5½ or 6 per cent notes.

This situation resulted in a great disquietude; the significance of which to the speculator was pointed out by the *Journal of Commerce* in January, 1907, as follows:

> Never before in the financial history of the United States have corporations been forced to resort to pawn shop methods of finance on such a gigantic scale, at a time, moreover, when call money averages 3 per cent, and 5 per cent is being paid for time loans. It is evident that those who have the financing of railroad construction in charge do not expect these low rates to continue. They look forward to renewed stringency and they seek to protect the corporations for which they are responsible by absorbing all the available supply of money even at exorbitant rates.

The financial community regarded the situation which then existed as desperate. Men like James J. Hill, John D. Rockefeller and E. H. Harriman pointed out that it was obvious that all railroads could not go on indefinitely with this policy. These temporary obligations must be replaced by long time bonds or by stock, and any other plan was manifestly impossible. If the great corporations during the continuance of high money rates which forced down prices could not get capital on reasonable terms, they must cut down their construction.

The identical situation was duplicated in 1903 and again in 1904. It was confidentially predicted that it would occur again in 1907 or at the latest in 1908 unless every lesson of financial experience was to be set aside as worthless. It was this situation, together with the wild speculation which had continued throughout 1906 and a portion of 1907 which were the chief symptoms which led many to predict the panic of 1907.

282. *Importance of the crop reports.*—There is nothing which exerts a wider influence than the condition of the crops as reported, from time to time, by the Department of Agriculture. These reports are eagerly scanned by all interested in financial matters, for in this brief table showing the condition of the crops and the acreage of each under cultivation lies to a large degree the answer to the question, "What will be the financial condition of the great agricultural districts during the next year?" The United States, in spite of its manufactures and its great railroads, is nevertheless an agricultural country. Upon the prosperity of the farmer depends that of the country. It is usually he who brings to an end a period of depression and gloom, and upon him rests the foundation of the financial solidity of the

entire country. When he is prosperous others cannot remain despondent for a very long period. When his crops are poor or when the prices are low all of the other interests combined cannot sustain hopeful conditions, for the influence of his misfortune will be felt in every branch of trade and industry. The effect of the condition of the crop is seen quickly upon the prices of railway shares—particularly those known as the granger roads and the cotton roads. Some of the largest and most influential roads in the west and south depend largely upon the traffic which the farmer furnishes for their sustenance. Large crops mean heavy freight traffic and good prices mean that the railroads will be able to charge satisfactory freight rates. Small crops, on the other hand, mean light tonnage, and low prices will force the railroads to cut their rates in order to enable the farmer to compete with the producers of other countries in the world's markets. The connection is so close that it is almost obvious. Upon the railroads, in turn, depend hundreds of investors. Upon the prosperity of the farmer, on the other hand, depends the demand for thousands of things he buys, but, which he does without temporarily when his earnings are unsatisfactory.

283. *Bewildering multiplicity of forces.*—These are but a few of the indices of the financial condition of the country. Many volumes have been written cataloguing and illustrating the effect which they have had upon the financial history of this country and that of the other leading commercial nations of the world. It is an oft-repeated maxim that there is not an event of any character which does not exert some effect, directly or indirectly, upon the prices of securities. The speculator reads in every news item of more than personal interest a lesson which he endeavors to take ad-

vantage of, in forecasting the trend of the market. The ordinary financial paper is an encyclopedia of the happenings of the world. It is filled with news concerning the condition of the crops, the new issues of securities, the condition of the banks, the rates of money, the foreign situation, the activity and condition of the leading trades and industries, the recent developments in labor circles, the percentages of commercial failure, the character and probable effects of impending legislation, news of any unusual weather disturbances such as floods, heavy snows or tornadoes, great fires, earthquakes or accidents or any catastrophe which will prove costly for the corporations involved, tidings of the discovery of new veins of minerals, any facts affecting the railroads or the earnings of industrial companies—in fact, everything which will in any way touch the prosperity of everyone, from the big corporations to the humblest farmer.

Every factor must be considered and discounted; every influence must be rightly gauged; every change must be contemplated. Is it any wonder, therefore, that the "lamb" who now and then ventures into speculation comes out a sadder, and a wiser, and a poorer man?

QUIZ QUESTIONS

(The numbers refer to the numbered sections in the text.)

CHAPTER I

1. Why is the dividing line between Investment and Speculation difficult to locate?
2. State some of the differences between Investment and Speculation.
3. Explain how the operations of the merchant and the stock speculator are essentially the same.
4. How does gambling differ from speculation?

CHAPTER II

5. Where are securities dealt in?
6. How does the Stock Exchange figure in the market for securities?
7. How does locality affect investment?
8. Why is the East still the Investment center?
9. Is Chicago growing as a financial center?
10. Where is the bulk of speculation carried on?
11. What advantage does the speculator in stocks have over the average business man, into whose business enters the element of speculation?

CHAPTER III

12. What is meant by a "seat" on the Stock Exchange?

13. What powers has the Governing Committee of the New York Stock Exchange?

14. What are the duties of some of the more important Stock Exchange committees?

15. What are Stock Exchange "posts"? How is business actually done on the Stock Exchange?

16. What happens to insolvent members of the Exchange?

17. How may insolvent members secure reinstatement?

18. What is the attitude of the Stock Exchange toward competitors?

19. What is the gratuity fund?

20. What is the difference between a "wash" sale and a "matched" order?

21. In what way did the Hughes Committee think fictitious transactions could be diminished?

22. Describe the three different rates of commissions on the Stock Exchange.

23. What is meant by a "two-dollar broker"?

24. Who are the "room traders"?

25. Who are the "specialists"?

CHAPTER IV

26. Explain the term "margin." Where does the rest of the money come from?

27. Why is it possible to make a greater profit on a margin transaction than on an ordinary purchase or sale?

28. What is a time loan? What is a call loan?

29. Explain the machinery of a call loan. What class of collateral do banks prefer?

30. How does it come about that money from all parts of the country is loaned to stock speculators in New York?

31. Describe the process of over-certification. How does the necessity for it arise?

32. Describe a one-day unsecured loan, and tell how it differs from over-certification.

33. Why are brokers interested in the condition of banks?

34. What is the surplus reserve of the New York Clearing House banks and why is its size a matter of interest to Wall Street men?

CHAPTER V

35. Does the fact that securities are dealt in on the Stock Exchange guarantee their merit?

36. Does the Stock Exchange throw any safeguards about its securities?

37. What are the conditions required for the listing of a railroad stock?

38. What are some of the questions which the Stock Exchange asks of companies which seek to list industrial securities?

39. In what way does the Stock Exchange supervise the corporations whose securities have already been listed?

40. What is the advantage of having a security listed on the Stock Exchange?

41. Describe the unlisted department of the Stock Exchange.

CHAPTER VI

42. What is meant by arbitrage, and upon what basis does the arbitrage business rest?

43. Explain the use of the arbitrage stock conversion tables.

44. What charges must be taken into account in computing the cost of an arbitrage transaction?

CHAPTER VII

45. Name and explain the four ways in which bids and offers can be made on the Stock Exchange.

46. How would you classify the patrons of the Stock Exchange?

47. Define the terms "bulls" and "bears."

48. Explain in detail the process of selling short. How is it possible to borrow stock?

49. Explain the relation of short selling to stocks which are closely held.

50. Describe a corner in stocks.

51. What do you think of the ethics of short selling?

52. Describe and explain puts, calls and straddles.

CHAPTER VIII

53. Is speculation at all scientific?

54. Give some instances of wide fluctuations in prices of stocks.

55. Give some instances of price variations in cases of stocks paying the same dividends.

56. Give instances of manipulation in stocks.

57. What daily influences affect the prices of stocks?

58. What is the general idea of Dow's theory of price movements?

CHAPTER IX

59. Name the two factors which Mr. Woodlock regards as really fundamental in determining the price of a stock over a considerable period of time.

60. Are all stock movements determined by the two fundamental factors?

61. What is the meaning of the words "overbought" and "oversold" as applied to the stock market?

62. How is the stock market like a bicycle rider whose cyclometer registers thirty miles, although his journey if made in a straight line would have been only twenty miles?

63. Can you name factors which tend to bear out the theory that intrinsic values govern prices in the long run?

64. Name some of the factors which affected the stock market in 1903, 1904 and 1905.

CHAPTER X

65. Why is it easy for gambling to creep into speculation on the Exchanges?

66. In what sense is the word "pyramiding" used in speculation?

67. Name a few of the mistakes made in speculation.

68. Explain how commissions handicap a speculator.

69. What view does Mr. Woodlock take as to "overtrading"?

70. Explain the logic of the maxim "Cut your losses —let your profits run."

71. How does over-confidence injure a speculator?

72. What are Mr. Woodlock's ideas as to the qualities which a speculator needs for success?

73. State briefly the experience of Germany in attempting to prevent speculation.

CHAPTER XI

74. Tell something about the difference between bonds and stocks.

75. Why is a bond not necessarily safe?

76. What is meant by "yield" when applied to bonds? Define the word "amortization." Explain the influence of money rates and business conditions on bond prices.

77. What is meant by accrued interest?

78. What is a half stock?

79. Define book value and explain its limitations.

80. Describe the advantages and disadvantages of bank stocks.

81. Describe the advantages and disadvantages of guaranteed stocks.

82. Give a brief account of New England mill shares.

83. Name a few important considerations affecting preferred stocks.

CHAPTER XII

84. What is the legal security behind a government bond?

85. What considerations affect the standing of a government bond?

86. How does the financial honesty of nations such as France, the United States, Germany and England, rank?

87. How does the stability of a government affect its bonds?

88. What consideration should be paid by the bond-buyer to the revenues and expenditures of the country?

89. Tell something about the growth of the national debt of Japan.

90. Why are investors willing to buy Japanese bonds despite the enormous quantity of them?

91. Describe the effect of supply and demand upon government bonds.

92. How are second class powers able to sell bonds?

93. Tell something about the bonds of third class powers.

94. Tell something about the experience of English investors with Honduran bonds.

95. Why is repudiation becoming less frequent?

96. What prevents general intervention where third class powers repudiate their bonds?

97. Describe briefly the attitude this country has taken toward Cuba in regard to the latter's bonds.

CHAPTER XIII

98. Tell something about the early bond issues of the United States of America.

99. Why was the National Banking System created and how does it affect the market for United States bonds?

100. Describe briefly the various issues of United States bonds now in existence.

101. Why do not individual investors buy Government bonds more freely?

102. Explain why there is a profit to national banks in buying Government bonds and issuing notes against them.

CHAPTER XIV

103. What is the legal position of state bonds and how did it arise?

104. Can a state be forced to pay its bonds?

105. For what purposes were state bonds issued in the early days of the country?

106. How did the early issues of state bonds fare?

107. What affect did the Civil War have upon the bonds of the southern states?

108. Describe the creation of state bond issues during the Reconstruction period.

109. What were the reasons of the southern states for repudiating their bond issues?

110. How many of the carpet-bag bonds were repudiated?

111. How did the bondholders attempt to recover?

112. How did one plaintiff recover on his bonds?

113. Why is the case of South Dakota against North Carolina not typical?

114. Do states as a rule limit their capital?

115. Why should state debts tend to increase at the present time?

116. Describe the sinking fund provisions of a few of the states.

117. How does the demand for irrigation affect the state debts?

118. Sum up the position of state bonds.

CHAPTER XV

119. What is the legal difference between state and municipal bonds.

120. How does a city obtain its authority to issue bonds?

121. Why does the state regulate municipal indebtedness?

122. What are the two methods of state control over municipal borrowing?

123. Describe the chief features of the Massachusetts law.

124. Explain the theory of net debt.

125. How do the restrictions vary in different states?

126. What is the element of risk in buying municipal bonds?

127–129. How do bond houses determine the legality of municipal bonds?

130–131. Why need investors not worry about a city's income?

132–133. Describe the effect of interest rates upon municipal bonds.

CHAPTER XVI

134. Why are railroad securities popular?

135. What are some of the factors which determine the value of railroad bonds?

136. Of what importance is the type or form of the obligation in determining the value?

137. How are railroad bonds secured?

138–147 Inclusive. Describe the salient features of the following classes of bonds: first mortgage, divi-

sional and branch mortgage, general mortgage, consolidated mortgage refunding, debenture, collateral trust, convertible and equipment. Explain the duties of a trustee.

148. Compare railroad bonds and real estate mortgages.

CHAPTER XVII

149. What are the three main classes of facts which a railroad report should show?

150. What are the chief items of a railroad revenue account?

151. Why is the maintenance account important?

152. Why do railroads differ in the amount spent on maintenance?

153. What amount should be expended upon maintenance of way?

154. Why is it difficult to generalize as to maintenance expenditures?

155. Why is it that the number of cars required by a railroad is not determined by its length?

156. What is meant by conducting transportation ratio?

157. What items are included in fixed charges?

158. Why is the item known as "amount due from controlled companies" an important one in a railroad balance sheet?

159. Does a large trainload necessarily mean a railroad is doing well?

CHAPTER XVIII

160. What are the sources of railroad earnings?

161. Why is the passenger business not more profitable?

162. To what extent is the traffic to suburban points and that between rural districts, profitable?

163. Explain the importance of the freight business.

164. What are the general principles of rate making?

165. How may railroads be grouped according to the class of traffic they enjoy?

166. Why is it important to know something about the chief class of traffic a railroad has?

CHAPTER XIX

167. Why is it helpful to the investor to make a careful investigation of a railroad report?

168. Give briefly the history of the Chesapeake and Ohio.

169. What natural advantages does the road possess?

170. How has its traffic changed?

171. What were the reasons for the decline of the through business?

172. What was the plan adopted to increase the eastern traffic?

173. Describe the coal agency companies.

174. What were the handicaps under which the Chesapeake and Ohio was operated?

175. In what ways were these overcome?

176. Describe the "betterment work" of the company?

177. What was the financial policy of the road?

178. What would be the effect of a financial depression upon the operation of the road?

179. Are the company's bonds safe?

180. Is the safety of the dividend assured?

CHAPTER XX

181. Why is the character of its franchise of prime importance to a public service company?

182. Why are gas companies not subject to much competition?

183. What difficulties were met with by the early electric lighting companies?

CHAPTER XXI

184. What was the street railway system previous to the one now in operation?

185. How did the present large street railway systems begin?

186. From what causes have the street railway earnings grown?

187–189. Describe the three methods of consolidation. namely, merger, lease, and stock purchase.

190. Why is it important to know in which of these three ways the large systems were brought together?

191. What is the relation of the securities of the various companies in the consolidaton?

192. What lessons may the investor draw from the Census report on street railways?

193. What is meant by "skinning" the property?

194. What proportion should operating expenses bear to the gross income?

195. Of what importance to the investor is a physical examination of the property?

196. How do inter-urban and city railways differ as investments?

197. What investment test may be applied to inter-urban securities?

CHAPTER XXII

198. Why has the relation of capitalization to cost become of importance to street railway investors?

199. Describe the legal position of street railways.

200. What were the criticisms of the railroad men on the Chicago plan?

201. What were the Chicago and Cleveland franchise controversies?

202. Why should the investor in street railway securities be especially careful to buy stocks of those companies whose reproduction cost fairly corresponds to capitalization; more especially where the franchises are limited?

203. What bearing did the case of Dartmouth College v. Woodward have on the franchises granted to corporations?

204. Why do the courts protect the tangible property of a corporation?

205. Under what conditions may a state regulate street railways? Describe the control of these companies in Massachusetts.

206. What law in New York governs the regulation of street railways? How many public service commissions are there? What is the jurisdiction of such commissions?

207. What other public service corporations come

under the jurisdiction of the state commissions? To what extent?

208. What penalties may be enforced against these corporations for non-compliance with the commission's orders?

209. What authority have the commissions over the time schedules, the running of trains and cars, and the general betterment of the service?

210. Explain a limited franchise. What is the danger to the investor if a company with such franchise is over-capitalized?

211. What lessons may be learned from the Chicago controversy? How was that dispute ended?

212. Was the Chicago decision wise? If so, what were its advantages?

213. Briefly enumerate the dangers, and the benefits of investment in securities of public service corporations?

CHAPTER XXIII

214. What do we mean by industrial securities?

215. How do securities of manufacturing companies differ from those of railroads?

216. Why do industrial corporations issue few bonds?

217. Why is it important to distinguish between production and consumption goods when studying industrial securities?

218. Why should a manufacturing company control its supply of raw material?

219. Explain the effect of strong competition upon industrial securities.

220. Explain the effect of monopoly of patents.

221. Does the personal ability of the manager in-

fluence the success of a company to such an extent that it would be damaged if he were replaced?

222. How should the bonds and preferred stock of a manufacturing company be safe-guarded?

223. What is the relation between a large surplus and the depreciation account of an industrial concern?

224. Are those industries that are dependent upon the tariff, regarded as good investments?

225. Why is the legal position of industrials uncertain?

CHAPTER XXIV

226. How would you characterize mining stocks as investments?

227. How are bonds of coal-mining companies secured?

228. What is the chief risk in copper-mining?

229. What provisions should be made by the company for the perpetuation of its assets? Of what importance is such provision?

230. What objection is there to a mining company maintaining its own provision against depreciation?

231. What is the difference between a prospect and a developed mine?

232. What is the real guarantee of a mining investment?

233. What effect does the price of the metal have upon copper mine stocks?

234. What are some of the features which a mining company's report should contain?

235. Why does not the past record of a mine necessarily make the mine of great value?

CHAPTER XXV

236. Why has it become necessary to issue irrigation bonds?

237. What are the different classes of irrigation bonds?

238. Which class first found its way into the hands of the public?

239. Describe the main features of the Carey Act. How does it affect irrigation bonds?

240. How do private irrigation bonds differ from the other types?

241. How does the element of risk enter into irrigation bonds?

242. How do they resemble railroad construction bonds?

243. How do municipal district bonds differ from ordinary municipal bonds?

244–245. Why is the personal equation important in determining the worth of irrigation bonds?

CHAPTER XXVI

246. Why do savings bank laws set a high standard for investment?

247. What are the "legal securities" for the investment of trust funds? Why was the name adopted?

248. Why should the individual investor secure expert advice?

249. What is meant by the convertibility of an investment?

250. How may the investor guard against loss. If securities with an element of risk are purchased, what precautions should be adopted?

CHAPTER XXVII

251. Why is it wise to study the class of investments made by rich men?

252–253. What kinds of stocks were held by Marshall Field? What was the proportion of "trust securities," and of industrials? What comment is made by Dr. Meade upon Mr. Field's holdings of railroad stock?

254. What rules may the investor find to follow from the Field investments in railroad stocks?

255. Were there any holdings of street railway stock? If so, of what kind?

256. What opinion did Mr. Field have of banking securities?

257. What bond investments were attractive to Mr. Field? What kind of securities were entirely absent? How did he show conservatism in his bond investments?

CHAPTER XXVIII

258. Why do unwise investments always contain the speculative element?

259. How may the hand of the unscrupulous promoter be recognized in the advertisements of his schemes?

260. Why are the promotions of oil stocks so often fraudulent?

261. What are the dangers of investments in mining stocks?

262. What are the risks in the schemes concerning new inventions?

263. Give an illustration of the eagerness of the

public to invest in worthless securities, offered by fraudulent promoters.

264. How do lax state incorporation laws promote swindling operations?

265. Describe the Chicago-New York electric railway scheme.

266. Why is it dangerous to buy stocks of railroads built merely to sell out?

267. What has the real estate promoter developed, recently as an alluring investment for the public?

268. What are the risks of even direct real estate investment?

269. What is the fallacy of having a stock guaranteed by a subsidiary of the issuing company?

270. Why are fire insurance company stocks risky?

271. Why are so-called "bargains" dangerous?

CHAPTER XXIX

272. How does a Wall Street panic differ from a commercial panic?

273. What part does speculation play in bringing on a commercial panic?

274. Has pyramiding anything to do with causing a panic? If so, how is it a cause?

275. Why does cash become scarce in a panic? What is a crisis?

276. Name a few of the theories of the causes of panics.

277. How was the panic of 1907 connected with our defective currency system?

CHAPTER XXX

278. Why should the volume of bank clearings interest the speculator and the investor?

279. Why does the condition of the steel trade interest the investor and speculator?

280. Why are railroad earnings a good barometer of business conditions?

281. What connection is there between the bond market and speculation in stocks?

282. Trace the relation between crops and the stock market.

283. Why is it that nobody is able to foretell exactly the variations of the stock market?

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